CONSTRUCTION NEWS

EDITORIAL COMMENT, PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

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State Engineer Bond has given President Roosevelt a feathered phonograph—a parrot. Plans and specifications of the bird's language are requested.

In this issue will be found a report on the rubble retaining walls at Jerome Park Reservoir, alleged to have been improperly constructed. The report makes interesting reading for contractors as well as for engineers. We have commented editorially upon the absurdity of ever expecting a thin rubble wall, laid in "dry mortar," to be absolutely water-tight. The public's criticism of work concerning which they are incompetent to judge is nothing novel. It appears to be the exception rather than the rule, nowadays, when a contractor's money is not tied up, pending some such charges as these of the Merchants' Association of New York. But, then, the contractor is always rich, and why should he care if a quarter of a million of his money is tied up for a few months, or a year, so long as the money is in such safe hands. Conditions like these are becoming so common that the foresighted contractor will make due allowances for them, and in the end the public must foot the bill. All of which, we concede, is not much consolation to the contractor who, in bidding, did not count upon the absurd lengths to which public interference may go. It is pleasing to note that a commission of eminent engineers has reported so favorably regarding work which had been so unjustly condemned.

The bidding prices on some macadam roadwork in Porto Rico were given in our last issue, and we note with interest the exceedingly low prices of all the bidders, but particularly those of the lowest bidder. The units of measure are given in the metric system, in which 1 m. is equal to 3.28 ft., 1 sq. m. is equal to 1.2 sq. yds., and 1 cu. m. is equal to 1.31 cu. yds The lowest bidder offers to do the earthwork for 14 cts. per cu. m., which is equivalent to less than 11 cts. per cu. yd.! He also offers to build macadam at $1,20 per cu. m., or at the rate of a trifle more than 90 cts. per cu. yd.! We have no means of knowing what rates of wages he expects to pay, but it is quite safe to say that whatever the wages he will wish the wages had been less, or the price received more.

We recall the first "engineer's estimate" of the cost of macadam roadwork in one of our states; and it bore a striking likeness to this low bid out in San Juan. The State Engineer had "estimated" that a macadam pavement could be laid for $1 per cu. yd.! Strangely enough, there were a few bidders who approximated this absurdly low estimate in their bidding—and they lived to learn the folly of basing a bid on the *guess* of another man who has nothing to lose by guessing wrong.

Commenting in our issue of July 9 upon the fairness of a certain penalty clause in an irrigation canal contract, we observed that it was refreshing not to find a large penalty imposed with no corresponding bonus. On irrigation work, on railway work, and in fact on engineering work generally, a day saved in completing the structure has usually the same intrinsic value as a day lost, and for that reason a fair specification should recognize this condition by offering a daily bonus for early completion equal to the daily penalty for non-completion. There are, it is true, exceptions to this as to every other general rule of practice; and an engineer experienced in building work has called our attention to the fact that shortening the time of completion of an office building may be of no benefit at all to the owner of the building, while delay may cause him heavy loss. This would be the case, of course, where every room in the building has been leased in advance of its completion, each lease beginning at a given date. On the other hand, it is a fact that few office buildings are thus gobbled up by tenants in advance, and it is also a fact that few building owners are so rash as to take upon themselves the risks of delayed work due to scarcity of materials or to strikes.

Breaking Up Boulders.

To break up boulders or hardheads is at best expensive work. There are six methods of breaking boulders into sizes that can be handled: (1) By sledging; (2) by drilling and splitting with plug and feathers; (3) by drilling and charging with an explosive; (4) by "mud-capping," that is, by laying dynamite or other high power explosive on the boulder and covering it with mud; (5) by drilling a hole in the earth under the boulder and charging the hole with high grade explosive; and (6) by piling brush on the boulder, setting fire to it, and after heating for some time, suddenly cooling with water, which makes it easy to split the boulder with a sledge or with an explosive.

Of these six methods there are two that we desire to speak of in particular, because they are less often used than they should be. We refer to the last two methods mentioned, (5) and (6) There is a very common but very erroneous belief that dynamite can be laid upon a boulder, and that in virtue of its sudden and powerful action it will shatter the rock, provided only that a little mud be placed over the dynamite. In case of small boulders this is true, but boulders of large size do not yield under this treatment unless an excessive amount of dynamite be used. Dynamite requires heavy tamping where it is to do heavy work, and a small amount of dynamite well confined will do far greater execution than a large amount held down only by light tamping. It requires much labor to obtain and pile a large quantity of mud capping on a charge of dynamite that is to crack a large boulder; but it requires very little labor to punch a hole in the earth beneath the boulder, and so make the boulder act as its own mud-capping for the charge. Into the hole so made beneath the boulder a few sticks of high grade dynamite should be placed and thoroughly tamped. In some soils water should be poured on the tamping to consolidate it. In this way a 5-cu. yd. boulder has been shattered with three sticks of dynamite.

Where brush and trees have to be cleared away and burned, the contractor should pile the wood on top of any boulders that are to be removed. Then after the fire has heated the rock to a high temperature, and before it has had time to cool slowly, a hose from a water cart should be turned upon the boulder. If this does not in all cases so weaken the rock that it can be readily broken with sledges, it will weaken it so that a smaller charge of dynamite will be needed to effect the shattering.

Should a Contractor Contract for Materials?

In any work involving the use of large amounts of steel, timber, cement or other materials the contractor usually secures quotations of prices by letter from reputable dealers. Very often, however, he receives the quotation by word of mouth only. This latter procedure is one that may lead to trouble. In the first place there is the Statute of Frauds to be considered; for in some states no verbal contract for materials is binding where the amount involved exceeds $30, and this regardless of how many witnesses may have been present. But in any case there is always danger of a misunderstanding under a verbal agreement that may lead to an expensive law suit.

If a quotation is made by letter, on the contrary, it needs only an unqualified acceptance of the quotation by letter or by telegram to constitute a written contract, from which there is no escape. Very often the letter making the quotation fails to state for what length of time the quotation is to hold good, and this is a point that we wish to emphasize.

A contractor, in preparing to bid on concrete, asks for a quotation on broken stone. He receives the quotation by letter, but as the contract has not yet been awarded to him he cannot accept the offer immediately. Nevertheless, he bases his bid upon that quotation, and, we shall assume, he is found to be the lowest bidder. Then, perhaps, one of those common delays in signing the contract occurs, so that a month or more elapses before the contractor is able to write or wire acceptance of the dealer's quotation on broken stone. In the meantime, the dealer may have taken an order for 1,000 tons of ballast per day and withdraws his first quotation. Has the contractor any redress? Under such conditions he may have redress or he may not, and he can be sure only after the jury has rendered its verdict. On the other hand, had the contractor received a quotation specifically stating a time limit, as six weeks, there would be no doubt whatever that the dealer could be held for all loss suffered by the contractor through failure to deliver the stone at the price agreed upon. This is a little point, but it is one too often overlooked.

There is another point to be considered in getting quotations on materials such as broken stone, and that is the rapidity of delivery after the stone has been ordered. We know of one firm of road contractors that was put to a heavy loss through a failure to specify how many tons of stone should be furnished to them each week. In that case the dealer in broken stone "had bitten off more than he could chew" with his crushers, for he had agreed to furnish stone to several road contractors at the same time, and with a plant of limited capacity it was simply impossible to supply all the stone that was wanted when it was wanted. Certain of these road builders had quotations on stone in which the amount to be furnished daily was specified, and they received their full due. The particular firm that we have in mind had no such definite agreement, and had to take what it could get, resulting in failure to finish its work before the winter had set in.

It is not by mere chance that some contracting firms succeed where others fail, and oftener than not the success lies in attention to such little details as those above mentioned. A little knowledge of law, like a little knowledge of medicine, may at times be a dangerous thing; but more often than not a little knowledge is invaluable, and this is especially true where that so-called "little knowledge" is a knowledge of a well-founded general principle. Surely it would be absurd to ignore certain general rules simply because one has not the time to learn all particular rules. A man need not know the whole of the science of electricity to know that it is unsafe while handling a hose to turn the stream of water upon a trolley wire. And upon the same principle one need not know all of law to escape the legal pitfalls.

PERSONAL.

Mr. Arthur Scranton, Superintendent of the Lackawanna Steel Co., Buffalo, N. Y., has resigned.

Mr. Joseph L. Vernon has been appointed Signal Engineer of the New York, New Haven & Hartford R. R.

Mr. John L. Johnson has been appointed Receiver for the Hazleton Boiler Co., having a plant at Rutherford, N. J.

Mr. H. M. Kochersperger, New Haven, Conn., has been elected President of the Meriden Street R. R., succeeding Mr. N. H. Hefft, resigned.

Mr. John A. Knighton, Engineer, has been appointed to succeed Mr. F. M. Sylvester, who has recently resigned as Assistant Engineer in the Department of Bridges, of New York city.

Mr. James Russell, of Kalispell, Mont., has been appointed Superintendent of the Missouri Pacific Ry., with headquarters at Atchison, Kan., succeeding Mr. Horace G. Clark, resigned.

Mr. W. H. Van Sickel, lately Manager of the New York office of the Under-Feed Stoker Co. of America, has accepted position as Superintendent of the Thos. H. Dallett Co., of Philadelphia, Pa.

Mr. Arthur Stirley, Chief Engineer of the Syracuse Rapid Transit Ry. Co., was seriously injured by the breaking of a scaffold at the company's power house in Syracuse, N. Y., on July 28.

Mr. W. R. Scott has resigned as General Superintendent of the Fort Worth & Denver R. R., and Mr. F. W. Egan, Denver, Colo., is appointed General Manager, with headquarters at Fort Worth, Tex.

Mr. W. C. Hurst has been appointed Assistant Superintendent of the Illinois Division of the St. Louis, Iron Mt. & Southern Ry., with headquarters at Chester, Ill., succeeding Mr. J. S. McGuigan, assigned to other duties.

Messrs. E. T. D. Meyers, Jr., of Richmond, Va.; John H. Finney and Hugh S. Morrison have associated their interests under the firm name of Finney & Morrison, to carry on a practice in Washington, D. C., and Richmond.

Dr. A. C. Scott, Professor of Physics and Electrical Engineering at the Rhode Island College, has accepted the chair of Electrical Engineering in the University of Texas, at Austin, where he will take up his duties early in the fall.

Mr. John H. Decker has resigned as Roadmaster of the Ulster & Delaware R. R., after having been connected with that company for over 30 years. Mr. R. O'Sullivan is appointed his successor, with headquarters at Rondout, N. Y.

Mr. H. M. Knapp, Assoc. M. Am. Soc. C. E., formerly Designing Engineer with the American Bridge Co., at Pencoyd, Pa., has been made Contracting Manager for the American Bridge Co., of New York, in charge of the Cincinnati, O., office.

Mr. Edwin Jay Nichols, M. Am. Soc. C. E., has resigned as Assistant Engineer of the St. Louis Southwestern Ry. Co., at Pine Bluff, Ark. Mr. Nichols will go to the Northern Lakes for about two months' vacation. His address will be Clear Lake, Ia.

Mr. Frank M. Sylvester, Assistant Engineer in the Department of Bridges, New York city, has resigned that position in order to go into the contracting business. He has been with the Department for four years and was in charge of the foundations for the new Manhattan Bridge.

Mr. N. H. Hefft, who recently resigned his position as Electrical Engineer for the New York, New Haven & Hartford R. R. Co.'s electric lines, has also resigned the position of President of the Stamford St. Ry. Co. and the Meriden St. Ry. Co. Mr. Hefft will go to Europe for some months.

Mr. F. M. Bisbee, recently Chief Engineer of the St. Louis & San Francisco Ry., has been appointed Engineer for B. Lantry Sons, railroad contractors, with headquarters at Fort Madison, Ia. Mr. Bisbee was formerly Superintendent of Track, Bridges and Buildings of the Gulf, Colorado & Santa Fe R. R.

Mr. Charles M. Schwab has resigned as President of the United States Steel Corporation, and is succeeded by Mr. W. E. Corey, President of the Carnegie Steel Co., who was made assistant to Mr. Schwab last month. Mr. Schwab's reason for retiring is given as ill-health. Upon regaining his health he will make his headquarters at 71 Broadway, New York.

Prof. Harold S. Boardman will become head of the Department of Civil Engineering of the University of Maine, in consequence of the resignation of Prof. Glover. Prof. Boardman has been Assistant Professor in that Department since last June, and from the summer of 1901 until then was instructor. He is a graduate of the University of Maine, class of 1898. In 1899 he accepted a position with the Union Bridge Co., of Athens, Pa., and later with the Pencoyd Iron Works, Pencoyd, Pa.

OBITUARY.

Mr. Elijah Cabble, who, with his brother, established the William Cabble Excelsior Wire Manufacturing Co. in Brooklyn, in 1850, died July 25 in that city. His brother died in 1870. Mr. Cabble was the inventor of several improvements in wire making machinery.

Mr. Alexander McLean, Superintendent of Construction on the rapid transit subway section, 59th to 100th St., was killed by a fall in the tunnel on July 27. In inspecting the iron work he stepped on a girder which had not been secured in place, and this tipped over, throwing him into the excavation, 30 ft. deep.

Mr. W. C. Henderson, shipbuilder, died of dysentery in the American Hospital in the city of Mexico, on July 14. Mr. Henderson was born in Glasgow, Scotland, in 1844, and came to this country in 1862. During the construction of the Panama R. R. he was given charge of the construction of lighters and remained at Panama for 19 years. He was forced to make trips to more healthful country from time to time. On one of these trips, in 1880, he superintended the removing of the obelisk in Central Park, New York city, from the steamer which brought it from Egypt to the place where it now stands.

Dr. Wilbur Clinton Knight, Professor of Geology and Mining Engineering at the University of Wyoming, and Curator of the State Museum of Wyoming, is dead of peritonitis. Dr. Knight was born at Rochelle, Ill., in 1858, and was graduated from the University of Nebraska in 1886. He was made Assistant Territorial Geologist of Wyoming the same year. He was Superintendent of Mines in Colorado and Wyoming, 1888-93, and the following year became Professor of Geology and Mining Engineering at the University of Wyoming. Since 1897 he had also been State Geologist of Wyoming. He was a Fellow of the Geological Society of America, and a member of the American Institute of Mining Engineers and of the Geographical Society of America.

ENGINEERING SOCIETIES.

COMING MEETINGS.

AMERICAN FORESTRY ASSOCIATION.
Aug. 25, 26. Summer meeting at the West Hotel, Minneapolis, Minn. H. H. Chapman, 593 Holly Ave., St. Paul, Minn., Local Secretary.
AMERICAN STREET RAILWAY ASSOCIATION.
Sept. 2 to 4. Annual convention at Saratoga Springs, N. Y. Secy., T. C. Penington, 2020 State St., Chicago, Ill.
NATIONAL IRRIGATION ASSOCIATION.
Sept. 15. Annual convention at Ogden, Utah. Secy., J. H. Fowler, Fisher Bldg., Chicago, Ill.
AMERICAN ELECTROCHEMICAL SOCIETY.
Sept. 17, 18, 19. Fall meeting at Niagara Falls, N. Y. Secy., C. J. Reed, Philadelphia.
AMERICAN MINING CONGRESS.
Sept. 7 to 12. Annual congress at Deadwood and Lead, S. Dak. Secy., Irwin Mahon, Carlisle, Pa.

COLORADO POLYTECHNIC ASSOCIATION.—This newly-formed society gave a successful "at-home" social party on the evening of July 24, with several hundred guests present. The regular meeting for August was held on Aug. 4. Permanent quarters for the association have been established in Block X., Abriendo Ave., Pueblo, Cal. Secy., W. R. Pendry, Pueblo.

SIGNAL TOWERMEN.—An organization is being formed among the towermen on the Central Railroad of New Jersey for the purpose of social and technical advancement. The exchange of experience in interlocking work will be a primary object of the organization. The nucleus of the organization, the Terminal Towermen's Association, held an excursion up the Hudson River to Newburgh on July 26. Mr. J. Mehan, Tower No. 1, is secretary of the association.

NATIONAL IRRIGATION CONGRESS.—The eleventh annual meeting will be held at Ogden, Utah, Sept. 15 to 18, inclusive. The program will include the following: 1, Practical irrigation and forestry lessons; 2, reports of experts; 3, application of provisions of the reclamation act; 4, state progress under the national act; 5, views on settlement of legal complications, and 6, the pertinent and important theme of colonization. The President of the Congress is Senator W. A. Clark, of Montana.

CONSTRUCTION NEWS.

PLANS AND SPECIFICATIONS ON FILE

The following Plans, Specifications and Bidding Sheets may be seen at the office of The Engineering News Publishing Co., 220 Broadway, New York:

Bids open	Work.	Place.	Remarks.	See issue
Aug.				July
6	Swg. p. plt.	Jackson, Mich.	Sp. & B. Sh.	—30
7	Road	Albany, N. Y.	P., Sp. & B. Sh.	—30
*8	Jetties	Asbury Park, N. J.	Sp. & B. Sh.	—30
*10	Paving	Newcomerstown, O.	Sp. & B. Sh.	—16
*10	Sewers	Newcomerstown, O.	Sp. & B. Sh.	—16
*10	Cmt & stne.	Ft. Greble, R. I.	Sp. & B. Sh.	—16
10	C.-i. pipe	New York, N. Y.	Sp. & B. Sh.	—23
11	Sluice gates	New York, N. Y.	Sp. & B. Sh.	—30
*12	Paving	Dunkirk, N. Y.	Sp. & B. Sh.	—30
*12	Dredging	Montgomery, Ala.	Sp. & B. Sh.	—30
14	Buildings	Merrill, Pa.	Sp. & B. Sh.	—30
14	W. supply	Jefferson Bks, Mo.	P., Sp. & B. Sh.	—23
*15	Water tank	Washington, D. C.	P., Sp. & B. Sh.	—23
17	W-w. fran.	Tiffin, O.	Ordinance	—23
*17	W-works	Watertown, N. Y.	Sp. & B. Sp.	—23
*17	Pavement	Sidney, O.	Sp. & B. Sh.	—30
*18	Lock	Plaquemine, La.	Sp. & B. Sh.	—23
*18	Buildings	Johnson City, Tenn.	Sp. & B. Sh.	—30
21	Sewers	St. Bernard, O.	Bid. Sh.	—23
*21	Harbr imp.	Boston, Mass.	P., Sp. & B. Sh.	—23
				Aug.
*28	Roads	Ft. D. A. Russell	Sp. & B. Sh.	— 6
*28	Walks	Ft. D. A. Russell	Sp. & B. Sh.	— 6
*29	Sewer	Washington, D. C.	Sp. & B. Sh.	—23
Sept.				
*1	Filtratn plt.	Richmond, Va.	Sp. & B. Sh.	—30
..	—Pavement	Taylorsville, Ill.	Sp. & B. Sh.	—23

*Work advertised in Engineering News.

NOTE.—We are desirous of securing specifications and bidding sheets (and plans when not too bulky) of pending work for file in our New York office for the benefit of contractors or others who may be interested in the work. If more sets than one are sent us we shall be pleased to distribute these to contractors who ask for them. When the work is advertised in Engineering News, note that the plans are filed with us will be added to the advertisement without cost.

LIST OF CONTRACTS PENDING.

Bids open. Aug.	Work.	Place.	See issue July
	LIGHT, HEAT AND POWER PLANTS.		
Aug. 7.	Street lighting	Georgetown, Ky.	Aug. 6
Aug. 6.	Electric light plant	Los Angeles, Cal.	July 30
Aug. 11.	Electric light plant	Seattle, Wash.	July 23
Aug. 11.	Electric elevator	Hartford, Conn.	July 30
	Advertised, Eng. News, July 30 and Aug. 6.		
Aug. 12.	Electric light plant	Winder, Ga.	Aug. 6
Aug. 12.	Electric light plant	Berwyn, Ill.	Aug. 6
Aug. 12.	Electric light plant	Cheraw, S. C.	Aug. 6
Aug. 14.	Heating plant (Mis.C.)	Minneapolis, Minn.	Aug. 6
Aug. 17.	Electric light plant	Monroe, La.	Aug. 6
Aug. 18.	Paving	Manistee, Mich.	July 30
Aug. 23.	Electric plant	Two Harbors, Minn.	Aug. 6
Aug. 24.	Heating plant, etc.	Hampton, Ia.	Aug. 6
	BRIDGES.		
Aug. 8.	Bridge	Wartburg, Tenn.	July 23
Aug. 8.	Bridge	Janesville, Wis.	July 23
Aug. 10.	Bridge	St. Elmo, Va.	July 30
	Advertised, Eng. News, July 30 and Aug. 6.		
Aug. 10.	Bridge	Napa, Cal.	Aug. 6
Aug. 10.	Bridge timber, etc.	Cleveland, O.	Aug. 6
Aug. 11.	Bridge	Jasper, Ala.	Aug. 6
Aug. 12.	Bridge	Houston, Tex.	Aug. 6
Aug. 12.	Bridge	Pekin, Ill.	July 16
	Advertised, Eng. News, July 16 to Aug. 6.		
Aug. 12.	Bridge	Coshocton, O.	July 23
Aug. 12.	Bridge	Stockton, Kan.	July 30
Aug. 18.	Bridge	Binghamton, N. Y.	July 30
	Advertised, Eng. News, July 30 and Aug. 6.		
Aug. 20.	Bridge	Paoli, Ind.	Aug. 6
Aug. 25.	Pile bridge	Toms River, N. J.	Aug. 6
	Advertised Eng. News, Aug. 6 to 27.		
Aug. 31.	Bridges (2)	Kansas City, Kan.	Aug. 6
	Advertised, Eng. News, Aug. 6 to Sept. 3.		
Aug. 31.	Bridge	Los Lunas, N. Mex.	Aug. 6
Aug. 31.	Bridge	Kansas City, Kan.	July 30
	Advertised, Eng. News, July 30 to Sept. 3.		
	BUILDINGS.		
Aug. 6.	Boiler house, etc.	New York, N. Y.	Aug. 6
Aug. 8.	Building	San Diego, Cal.	Aug. 6
Aug. 8.	Jail	Ossipee, N. H.	Aug. 6
Aug. 10.	Armory	St. Paul, Minn.	Aug. 6
Aug. 10.	Library building	Waterville, Me.	Aug. 6
Aug. 10.	School	New Haven, Conn.	Aug. 6
Aug. 10.	Building	Fort Slocum, N. Y.	July 16
	Advertised, Eng. News, July 16 to Aug. 6.		
Aug. 10.	Building	Mishawaka, Ind.	July 30
Aug. 11.	Building	Indianapolis, Ind.	July 30
Aug. 11.	Building	Portland, Ore.	July 2
	Advertised, Eng. News, July 2 and 9.		
Aug. 11.	Buildings	Mt. Pleasant, Mich.	Aug. 6
Aug. 12.	School	Lynn, Mass.	Aug. 6
Aug. 12.	Jail	Camden, N. J.	Aug. 6
Aug. 12.	School	Waterville, Me.	Aug. 6
Aug. 12.	Building	Little Rock, Ark.	Jun. 25
Aug. 12.	U. S. post office	Kirksville, Mo.	July 16
Aug. 12.	Building	Danbury, N. C.	July 23
Aug. 12.	Jail building	Fernandina, Fla.	July 30
Aug. 14.	Buildings (2)	Merrill, Pa.	July 30
Aug. 17.	Building	Greenville, Tenn.	July 23
Aug. 17.	Church	Gibsonburg, O.	Aug. 6
Aug. 18.	Buildings (2)	Johnson City, Tenn.	July 30
	Advertised, Eng. News, July 30 to Aug. 13.		
Aug. 19.	Building	Cape Girardeau, Mo.	Aug. 6
Aug. 20.	Building	Bridgeport, Conn.	July 30
Aug. 20.	School addition	Mt. Vernon, O.	Aug. 6
Aug. 24.	School	Cleveland, O.	Aug. 6
Aug. 26.	Plumbing, etc.	Chickamauga Park, Ga.	Aug. 6
Aug. 26.	Building	Nashville, Tenn.	July 30
Aug. 27.	Building, etc.	Washington, D. C.	July 23
Sept. 1.	Armory	New York, N. Y.	Aug. 6
Sept. 4.	Buildings	Ft. Rosecrans, Cal.	Aug. 6
	Advertised Eng. News, Aug. 6 to 27.		
	WATER SUPPLY AND IRRIGATION.		
Aug. 6.	Water-works	Odessa, Wash.	July 30
Aug. 7.	Water-Works	Naperville, Ill.	July 30
Aug. 11.	Water main	White Hall, Ill.	July 30
Aug. 11.	Water pipe, etc.	New York, N. Y.	Aug. 6
Aug. 12.	Water-wks improvements	Coatesville, Pa.	Aug. 6
	Advertised, Engineering News, Aug. 6.		
Aug. 12.	Pumping engine	Windsor, Ont.	Aug. 6
Aug. 12.	Water-works	Chinook, Mont.	July 9
Aug. 13.	Water mains	New York, N. Y.	Aug. 6
Aug. 14.	Water-works improvements	St. Louis, Mo.	July 23
Aug. 15.	Water tower, etc.	Washington, D. C.	July 30
	Advertised, Eng. News, Aug. 6 and 13.		
Aug. 15.	Water-works	Cameron, Mo.	July 30
Aug. 15.	Water tank	Washington, D. C.	July 23
	Advertised, Eng. News, July 23 and 30.		
Aug. 15.	Sinking wells	Albion, Neb.	Aug. 6
Aug. 17.	Pipe, etc.	Winnipeg, Man.	Aug. 6
Aug. 17.	Water franchise	Tiffin, O.	July 23
Aug. 17.	Water filter, etc.	Oberlin, O.	July 30
Aug. 18.	Sinking well	Perry, Okla. Ter.	Aug. 6
Aug. 19.	Rebuilding reservoir	Easton, Pa.	Aug. 6
	Advertised, Eng. News, Aug. 6 and 13.		
Aug. 20.	Water-Works	Cody, Wyo.	July 23
Aug. 25.	Water-works	Argentine (Foreign).	July 23
Aug. 25.	Irrigation work	Weiser, Idaho.	Aug. 6
Aug. 25.	Water-works	Manasquan, N. J.	Aug. 6
	Advertised Eng. News, Aug. 6 to 27.		
Aug. 25.	Water-works bonds	Manasquan, N. J.	Aug. 6
	Advertised Eng. News, Aug. 6 to 27.		
Aug. 25.	Water-works	Mount Penn, Pa.	Aug. 6
	Advertised, Engineering News, Aug. 6.		
Aug. 25.	Water-works	Gulfport, Miss.	Aug. 6
	Advertised, Engineering News, Aug. 6.		
Aug. 25.	Generators, etc.	Seattle, Wash.	Aug. 6
Aug. 27.	Water-works	Schuylerville, N. Y.	Aug. 6
	Advertised, Eng. News, Aug. 6 and 13.		
	SEWERAGE.		
Aug. 6.	Sewage pumping plant	Kalamazoo, Mich.	July 30
Aug. 7.	Sewers	Des Moines, Ia.	July 30
Aug. 10.	Sewers	Newcomerstown, O.	July 16
	Advertised, Eng. News, July 16 and 23.		
Aug. 10.	Brick sewers	Rock Island, Ill.	Aug. 6
Aug. 10.	Sewers	Coatesville, Pa.	Aug. 6
	Advertised, Engineering News, Aug. 6.		
Aug. 10.	Sewer	Wapakoneta, O.	Aug. 6
Aug. 13.	Sewer system	Montpelier, O.	Aug. 6
Aug. 14.	Sewers	Somonauk, Ill.	Aug. 6
	Advertised, Engineering News, Aug. 6.		
Aug. 15.	Sewers	Demopolis, Ala.	Aug. 6
Aug. 15.	Sewage plant	Baltimore, Md.	July 30
	Advertised, Eng. News, July 30 to Aug. 13.		
Aug. 17.	Sewers	Albert Lea, Minn.	Aug. 6
Aug. 17.	Sewers	Ottumwa, Ia.	Aug. 6
Aug. 17.	Sewers	Winona, Minn.	Aug. 6
Aug. 17.	Brick sewer	Albert Lea, Minn.	Aug. 6
	Advertised, Engineering News, July 9.		
Aug. 17.	Sewer	Macon, Mo.	Aug. 6
Aug. 18.	Sewers, w-wks.	Albany, N. Y.	Aug. 6
	Advertised, Eng. News, Aug. 6 and 13.		

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

Aug. 20. Sewers, El Paso, Tex. ..... Aug. 6
Aug. 21. Sewers, St. Bernard, O. ..... July 23
Aug. 25. Sewerage, Penn Yan, N. Y. ..... Aug. 6
Advertised, Eng. News, Aug. 6 and 13.
Aug. 29. Sewers, Washington, D. C. ..... July 23
Advertised, Eng. News, July 23 to Aug. 20.
Sept. 4. Sewer, Marion, Ind. ..... July 30

STREETS AND ROADS.

Aug. 6. Paving, Buffalo, N. Y. ..... July 30
Aug. 6. Road, Kearny, N. J. ..... July 16
Advertised, Eng. News, July 16 to Aug. 6.
Aug. 6. Roads, Boston, Mass. ..... July 9
Advertised, Eng. News, July 9 to 30.
Aug. 7. Brick paving, Des Moines, Ia. ..... July 30
Aug. 7. Road, Albany, N. Y. ..... July 30
Aug. 8. Paving, Cleveland, O. ..... July 23
Aug. 8. Paving, Hartford, Wis. ..... Aug. 6
Aug. 10. Paving, Rock Island, Ill. ..... Aug. 6
Aug. 10. Paving, Wapakoneta, O. ..... Aug. 6
Aug. 10. Paving, Canonsburg, Pa. ..... July 30
Advertised, Engineering News, July 30.
Aug. 11. Sidewalks, Cincinnati, O. ..... July 23
Aug. 11. Road, Wilmington, Del. ..... July 16
Advertised, Eng. News, July 16 to 30.
Aug. 12. Road, Freehold, N. J. ..... July 23
Advertised, Eng. News, July 23 to Aug. 5.
Aug. 12. Paving, Dunkirk, N. Y. ..... July 23
Advertised, Eng. News, July 23 and 30.
Aug. 12. Roads, Providence, R. I. ..... July 30
Aug. 13. Macadamizing road, Buffalo, N. Y. ..... Aug. 6
Aug. 14. Paving and sewers, Greenwich, Conn. ..... Aug. 6
Advertised, Engineering News, Aug. 6.
Aug. 14. Road work, Green Castle, Ind. ..... Aug. 6
Aug. 14. Paving, Minneapolis, Minn. ..... Aug. 6
Aug. 15. Road work, Greencastle, Ind. ..... Aug. 6
Aug. 17. Paving, 45,993 yds., Sidney, O. ..... July 30
Advertised, Engineering News, July 30.
Aug. 17. Paving, East Palestine, O. ..... Aug. 6
Aug. 18. Paving, sewers, Canandaigua, N. Y. ..... Aug. 6
Advertised, Eng. News, Aug. 6 and 13.
Aug. 20. Gravel road, Crown Point, Ind. ..... Aug. 6
Aug. 21. Paving, Salem, N. J. ..... Aug. 6
Advertised, Eng. News, Aug. 6 and 13.
Aug. 23. Road and walks, Cheyenne, Wyo. ..... July 30
Advertised, Eng. News, July 30 to Aug. 20.
Aug. 25. Macadam roads, Newton, N. J. ..... July 30
Advertised, Eng. News, July 30 to Aug. 20.
Sept. 1. Paving, Lake Charles, La. ..... Aug. 6
Advertised, Eng. News, Aug. 6 to Sept. 3.
Sept. 2. Stone roads, New Brunswick, N. J. ..... Aug. 6
Advertised, Eng. News, Aug. 6 to Sept. 3.
Sept. 10. Paving, Taylorville, Ill. ..... July 23

MISCELLANEOUS CONTRACTS.

Aug. 6. Park entrance, New York, N. Y. ..... July 30
Aug. 6. Boats and dredge, New Orleans, La. ..... July 23
Aug. 7. Pipe laying, Grand Rapids, Mich. ..... July 30
Advertised, Engineering News, July 30.
Aug. 8. Jetties, Asbury Park, N. J. ..... July 30
Advertised, Engineering News, July 30.
Aug. 8. Boiler, East Cleveland, O. ..... Aug. 6
Aug. 10. Boiler, Boston, Mass. ..... Aug. 6
Aug. 10. Dredging, New York, N. Y. ..... Aug. 6
Aug. 10. Cement, stone, etc., Fort Greble, R. I. ..... July 16
Advertised, Eng. News, July 16 to Aug. 6.
Aug. 10. Cast-iron pipe, New York, N. Y. ..... July 23
Aug. 10. Ditch, Franklin, Ind. ..... July 30
Aug. 10. Drain, Ethel, Ont. ..... July 30
Aug. 11. Sluice gates, New York, N. Y. ..... July 30
Aug. 11. Metal shelves and cases, St. Poul, Minn. ..... Aug. 6
Aug. 12. Dredging, Montgomery, Ala. ..... July 30
Advertised, Eng. News, July 30 and Aug. 6.
Aug. 12. Pipe (Misc. C.), San Francisco, Cal. ..... July 30
Aug. 13. Engines, generators, etc., Cleveland, O. ..... July 30
Advertised, Engineering News, July 30.
Aug. 13. Comfort station, New York, N. Y. ..... Aug. 6
Aug. 14. Concrete construction, Washington, D.C. ..... Aug. 6
Advertised, Engineering News, Aug. 6.
Aug. 14. Steam heating, Celina, O. ..... July 30
Aug. 14. Dam, etc., (W.-W.), Winston, N. C. ..... July 30
Advertised, Eng. News, July 30 and Aug. 6.
Aug. 15. Excavation, San Francisco, Cal. ..... Aug. 6
Aug. 17. Vaults, Washington, D. C. ..... Aug. 6
Advertised, Engineering News, Aug. 6.
Aug. 16. Drainage, Rockwell City, Ia. ..... Aug. 6
Advertised, Engineering News, Aug. 6.
Aug. 17. Filters, Watertown, N. Y. ..... July 23
Advertised, Eng. News, July 23 to Aug. 13.
Aug. 17. Levee work, New Orleans, La. ..... July 30
Aug. 18. Lock approaches, New Orleans, La. ..... July 23
Advertised, Eng. News, July 23 to Aug. 20.
Aug. 19. Heating, Newport, Vt. ..... July 23
Advertised, Eng. News, July 23 and 30.
Aug. 20. Steamboat, New Orleans, La. ..... July 23
Advertised, Eng. News, July 23 to Aug. 20.
Aug. 20. Hydrants, Washington, D. C. ..... July 23
Advertised, Engineering News, July 23.
Aug. 21. Rock excavation, Boston, Mass. ..... July 23
Advertised, Eng. News, July 23 to Aug. 20.
Aug. 22. Pumping plant, Sioux Falls, S. Dak. ..... July 30
Advertised, Eng. News, July 30 to Aug. 20.
Aug. 22. Dock improvements, New London, Conn. ..... July 30
Aug. 25. Kitchen equipment, Johnson City, Tenn. ..... July 30
Advertised, Eng. News, July 30 to Aug. 27.
Aug. 25. Dredging, Seattle, Wash. ..... Aug. 6
Aug. 26. Dredging, Ithaca, Mich. ..... Aug. 6
Aug. 31. Improvement bonds, Wilson, N. C. ..... Aug. 6
Advertised, Eng. News, Aug. 6 to Sept. 15.
Aug. 31. Steam boilers, Logansport, Ind. ..... July 2
Advertised, Eng. News, July 2 to 23.
Sept. 1. Excavation, Memphis, Tenn. ..... Aug. 6
Sept. 1. Filtering plant, etc., Richmond, Va. ..... July 30
Advertised, Eng. News, July 30 to Aug. 20.
Sept. 2. Ammunition hoists, Washington, D. C. ..... Aug. 6
Advertised, Eng. News, Aug. 6 to Sept. 3.
Sept. 3. Light house, Baltimore, Md. ..... Aug. 6
Advertised, Engineering News, Aug. 6.
Sept. 5. Suction dredge, Philadelphia, Pa. ..... Aug. 6
Advertised, Eng. News, Aug. 6 to Sept. 3.
Dec. 15. Railway, Chili (Foreign) ..... Jun. 11
May 2, '04. Railway, South Australia, ... Feb. 5

RAILWAYS.

BALTIMORE & OHIO.—Contracts have been awarded in connection with the new terminals in Washington, D. C., to involve an expenditure of over $2,000,000. The contractors are McMullen & McDermott and the Hoffman Engineering & Construction Co., Philadelphia, Pa., and the work embraces the eastern approach to the new terminal, the freight yards, roundhouses and connecting tracks.——Right of way being sought for the cut-off from Wheeling to Cumberland via Morgantown, W. Va., and Confluence.

CENTRAL R. R. OF ARKANSAS.—F. A. Molitor, Pres. and Ch. Engr., Fort Smith, Ark., writes that surveys are completed right of way secured and contracts will be let in September for building this road from Dardanelle to Hot Springs, 150 miles.

BIRMINGHAM, HUNTSVILLE & GULF.—Col. J. A. Montgomery, Surv., has completed a horseback survey for this road from Birmingham to Huntsville, Ala.

BANGOR & AROOSTOOK.—A branch road from Squa Pan to Frenchville, Me., running between the Fish River branch and the main line to Van Buren, is talked of. F. W. Cram is Pres., Bangor, Me.

COLORADO & SOUTHERN.—The company is reported to be arranging to build a 25-mile line from a point on the Stout branch west of Fort Collins, Colo., to Wellington. H. W. Cowan, Denver, is Ch. Engr.

CUMBERLAND MT. COAL, IRON & R. R. CO.—Surveys are completed to Crossville, Tenn., and rights of way are being secured. J. H. McCord is Pres., Crossville.

DELAWARE & HUDSON.—The narrow-gage section of the Adirondack branch, from Lyon Mountain to Lake Placid, 48 miles, has been converted to standard gage. The work was done on Sunday, Aug. 2.

DURHAM & CHARLOTTE.—John L. Tull, Ch. Engr., Pittsboro, N. C., writes that preliminary surveys have been made and most of the rights of way secured and also capital for this line, to be about 54 miles long. Work will be done by the company's forces, and location and construction will begin immediately. John B. Leming is Pres., Philadelphia, Pa.

ENGLAND & CLEAR LAKE.—H. Galloway, Secy., England, Ark., informs us that track has been laid for about four miles and will extend only one mile further this year. The remaining four miles, as now planned from England to Laster's Landing, will be finished at a later date. J. E. Hicks is Pres., and J. D. Beakley is Ch. Engr., both of England, Ark.

GRAND TRUNK.—A contract has been granted to Ross & McRae for constructing a section of the main line between Sarnia Tunnel and Hamilton, Ont. The contract embraces about 22 miles of line.

GREAT NORTHERN.—We are informed by A. H. Hogeland, Ch. Engr., St. Paul, Minn., that a location survey has been completed and the right of way through the White Earth Reservation granted by the Secretary of the Interior, for the line from Pelican Rapids, Minn., to McIntosh, via Audubon, some 77 miles in length. Construction is not expected this year. Jas. J. Hill is Pres., St. Paul.

GULF & CHICAGO.—H. S. Jones, Ch. Engr., Mobile, Ala., writes that contracts will be let at once for constructing the proposed line, to be an extension of the Mobile, Jackson & Kansas City R. R. It will be 145 miles long, and run to Union, Philadelphia, Louisville, Ackerman and Houston, all in Mississippi. Locations and rights of way have been secured for 65 miles; capital secured. W. A. Stanton is Pres., 74 Broadway, New York.

GULF, WESTERN TEXAS & PACIFIC.—An extension will be built from Placido, Tex., to Refugio county, to the holdings of the Refugio Land & Immigration Co., about 25 miles distant. Work will begin Sept. 1, and be completed as soon as possible thereafter.

MISSOURI, KANSAS & TEXAS, OF TEXAS.—J. W. Petheran, Ch. Engr., Dallas, Tex., writes that a survey has been made for the line from Georgetown to Austin, Tex., about 50 miles long.——The Missouri Construction Co., Joplin, Mo., is reported to have the contract for the improvements to be made at Parsons, Kan., including the grading for the enlargement of the yards and several miles of spurs. L. W. Winter and George Walt are members of the contracting firm.

NEW YORK CENTRAL.—Bids were opened at Grand Central Station, New York City, on Aug. 4 for the initial work in carrying out the plans for the reconstruction of the Grand Central terminal. The figures will not be in shape for comparison for a few days, and contracts will not be let for the present. H. Fernstrom is Ch. Engr.

NORFOLK & WESTERN.—Company will build 500 new coal cars in its Roanoke, Va., shops, each to have 100,000 lbs. carrying capacity, and to be steel framed. Material for construction is now arriving. E. T. Burnett is Pur. Agt., Roanoke.

PENNSYLVANIA.—Bids are wanted by the Keystone Marble Co., 756 Cumberland St., Lebanon, Pa., for grading a railroad siding at or near Derry Church, Pa., about two miles long. (See advertising columns.)

PERE MARQUETTE R. R.—We are advised by Frank H. Alfred, Ch. Engr., Detroit, Mich., that the line between Hart and Ludington has been located, but nothing done towards construction.

PORTLAND, NEHALEM & TILLAMOOK.—Wm. Reed, Secy., Portland, Ore., reports that funds for construction have been secured.

SOUTHERN.—W. H. Wells, Ch. Engr., Washington, D. C., has stated that the contract for 50 miles of the Rabun Gap road from Maryville, Tenn., to the State line up the Little Tennessee River, has been let to W. J. Oliver & Co., Knoxville, Tenn., to be completed in 18 months. John Spradling & Bros., contractors, Knoxville, are associated with W. J. Oliver & Co. in the work, and have reached Maryville with their outfits.

SOUTHERN PACIFIC.—Surveyors have completed their work from Boulder Creek to Pescadero, Cal., on the line planned from Pescadero to San Francisco.

SOUTH GEORGIA & WEST COAST.—Contract let to Lester Bros. for the construction of this road complete, excepting the equipment. J. W. Oglesby, Quitman, Ga., is Pres.

TENNESSEE CENTRAL.—The switching yards in South Nashville, Tenn., will be doubled in capacity this fall. Chief Engineer McDonald has completed plans for the work. Geo. A. Clarke is Gen. Mgr., Nashville.

SAN PEDRO, LOS ANGELES & SALT LAKE.—F. M. Robinson, head of the surveying department, has returned to Los Angeles, Cal., having finished the surveys for the new line from Calientes south after nine months' work. Engineer Summer had charge of the surveys on the other end, working towards Salt Lake. Mr. Robinson's surveys covered about 350 miles from Calientes to the Cajon Pass. No difficult features of engineering were encountered, except for a bridge here and there.

NEW INCORPORATIONS AND CHARTERS.

BURNSIDE & CINCINNATI.—Ky.—Incorporated to build a line from Burnside Junction to the junction of the Cumberland and South Fork Rivers; cap. $5,000. C. W. Cole, M. F. Mallory and Park S. Johnson, all of Cincinnati, O., are incorporators.

CANADA.—The Regina & Hudson's Bay Ry. has been authorized to incorporate by Parliament to construct a line from the international boundary line to Regina, Craven, Long Lake and Strassburg settlements, Assininboia, thence to Carrat River, and to Fort Churchill, on Hudson's Bay.——The Hudson's Bay & Western Ry is authorized to incorporate to build a line from Churchill to Lake Athabasca, thence through the Peace River Pass to Port Simpson, on the Pacific Coast.

McALLSTER TERMINAL & TRANSIT CO.—Ind. Ter.—Articles filed; cap. $250,000; to build a belt line around South McAlester and acquire depot sites and other terminal facilities. J. J. McAlester, F. S. Genung and W. G. Weimer are interested.

MADERA, RY.—Cal.—Articles filed in Madera County for a 2-mile road running from Curtis Station to McGowan Station, that county; cap. $50,000. J. C. Campbell, A. G. Towne and F. C. Drew are incorporators, all of San Francisco.

NICHOL SHORT LINE.—W. Va.—Chartered to build from Belva, W. Va., along the Little Elk Creek to its headwaters; cap. $100,000. C. C. Sharp, Peter Carrel and J. N. Chilton, Charleston, are incorporators.

NORTH STATE RY.—N. C.—Chartered to build 10 miles of road from Johnston's Mill, on the Raleigh & Cape Fear Ry., to a point in Harnett County; cap. $50,000. K. B. Johnson is the principal stockholder.

STREET AND ELECTRIC RAILWAYS.

RUTLAND, VT.—The Rutland St. Ry. Co. plans to complete the line from Fair Haven to Whitehall, N. Y., in the near future. G. A. Proctor is Ch. Engr.

BENNINGTON, VT.—Surveys have been started for the North Adams & Bennington Electric Ry., which will run via Pownal and Williamstown, about 20 miles.

ROCKVILLE, CONN.—It is asserted that the survey for the Broad Brook, Ellington & Rockville electric road will be started at once, and be finished by Aug. 31. The original survey made the line 11 miles long, and this final one is expected to lessen it to below 10 miles. Franchises will be asked of East Windsor, Ellington and Vernon as soon as this work is finished.

ALBANY, N. Y.—The Ithaca & Auburn Electric Ry. Co. has been incorporated with $1,000,000 cap., to construct an electric road 40 miles long, between Ithaca and Auburn. Ithaca will be the prinicipal office. Sherman Collins, Ithaca; Isaac P. Hazard and Dexter Wheeler, Poplar Ridge, are directors.

NIAGARA FALLS, N. Y.—The Riverdale Cemetery Association has asked the International Ry. Co. for the extension of the Devil's Hole line to the new cemetery.

ONEIDA, N. Y.—The Oneida Ry. Co. has started condemnation of the right of way on the proposed Sherrill-Kenwood branch, and expects to begin construction soon; H. J. Clark, Syracuse, is Ch. Engr.

PATERSON, N. J.—The Business Men's Association is furthering the project promoted by J. E. Melick for an electric road connecting Paterson and Trenton. Local people have been asked to subscribe $100,000. L. A. Plaget, Second Nat. Bank Bldg., is interested.——The plan to construct an elevated road from Hoboken to the Oranges, Bloomfield and Montclair is being revived. The Elevated Electric Ry. of New Jersey is to be the operating company. As originally planned the line will cost $2,000,000, including the right of way and equipment. A tunnel 4,600 ft. long is included in the plans, to cost $450,000. James S. Holmes, Orange, is interested.

HAGERSTOWN, MD.—The Hagerstown St. Ry. Co. will extend its system from Boonsboro to Myersville, to connect with the Frederick road. It will be about five miles long, and cost $50,000. Superintendent Hepperle states that work will probably not be started until next year.

GRAHAM, VA.—John Walters, Pres. Bluefield & Hinton Electric Ry., writes that surveys and profiles have been made and rights of way secured. Contracts will be let about Sept. 15 for a line from Graham, Va., to Bluefields, W. Va., three miles.

CHATTANOOGA, TENN.- The Chattanooga Electric Ry. is granted permission to extend its double track from its terminus near Erlanger Hospital.

NORTON, KY.—The Wise County Electric Light, Power & Transportation Co. has organized here, to build an electric line from Norton via Jones Creek, and other towns in the Wise county mining regions. Work will begin at once.

CINCINNATI, O.—E. F. Layman, Ch. Engr. Madison, Greensburg & Indianapolis Electric Ry., Cincinnati, writes that surveys are finished, rights of way obtained, and part of capital secured for construction purposes. The line will run from Madison to Rexville, Versailles, Osgood, Napoleon and Greensburg, and be about 49 miles in length. R. Johnson, Madison, Ind., is Pres.

CLEVELAND, O.—The Kingsville & Southern Ry. Co. of Cleveland has incorporated with $20,000 cap., to build an electric line from this village to North Kingsville. E. F. Pegg, I. F. McAuley and F. M. Nowalk are incorporators.

FRANKFORT, IND.—John G. Clark, Frankfort, was elected president of the Tipton-Attica-Frankfort Traction Co., which proposes to build an electric line connecting the cities named. The company will soon be incorporated, and will be capitalized at $50,000. Samuel Clark, Attica, is Vice-Pres.

KALAMAZOO, MICH.—The survey for the electric line to be constructed by the Kalamazoo & Lake Michigan Traction Co., between this city and South Haven, has been completed by A. L. Rand. Mr. Rand will also superintend the construction of the road. The cost will be about $1,500,000. Work begins early in September.

ALTON, ILL.—J. F. Porter, Pres. Alton Ry., Gas & Electric Co., writes that the East Alton line is now under construction and aside from securing a right of way to East St. Louis no other construction is under consideration.

PEKIN, ILL.—The Peoria & Pekin Terminal Ry. will extend its passenger service to the plant of the Illinois Sugar Refining Co., and ask for a franchise for a line to the eastern city limits. T. J. Miller is Pres.

DAVENPORT, IA.—T. H. Lancashire, 110 East Third St., informs us that surveys are completed and the contract let to the International Construction Co., for the 31 miles of electric line for the Davenport & Suburban Ry. Poles are being set. The contract includes 10 miles of city lines in Davenport. Adolph Prester is Pres., and Dan MacGugan, Ch. Engr.

COUNCIL BLUFFS, IA.—James Wilson, Engr., has begun a preliminary survey for the Des Moines-Council Bluffs electric line. The company is incorporated and has secured funds for the survey through seven counties.

SPRINGFIELD, MO.—Wm. Woodburn, Pres. Springfield, Jefferson City & Chicago Ry., states that work will start soon and 35 miles of construction will be completed within 90 days after signing the contract.

KANSAS CITY, MO.—The Metropolitan St. Ry. Co.'s "L" road, between this city and Kansas City, Kan., is said to need rebuilding and steps to that end are being taken by the business men of the west bottoms. The Central Ave. bridge and viaduct will be included in the reconstruction if undertaken. B. Corrigan is Pres.——The Southern Illinois Electric Ry. Co. has incorporated with $50,000 cap., to build an electric road from East St. Louis to near Maumee, on the Wabash River. John R. Piercy, Samuel T. Maxey and Albert N. Johnson, Mount Vernon, are interested.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

COFFEYVILLE, KAN.—A 50-year franchise has been granted to A. A. Anderson, Indianapolis, for an interurban electric railway between Coffeyville, Independence and Cherryvale. Work is to be commenced within 30 days and be finished by Oct., 1905.

GALVESTON, TEX.—The board of city commissioners has granted a franchise to the Galveston-Houston Electric Interurban Ry. Co., to use the city's streets for its road. W. B. Slosson, W. E. Scott and H. E. Fuller, Houston, are interested.

TRINIDAD, COLO.—G. V. McClure, chief engineer for the new Trinidad electric railway, has organized a corps of surveyors and will locate the new line.

SOUTH McALESTER, IND. TER.—The McAlester Terminal & Transit Co. has incorporated and will build a belt line around the cities of McAlester and South McAlester; cap., $250,000. J. J. McAlester is Pres., and W. G. Weimer, Vice Pres. Preliminary surveys are ordered.

OKLAHOMA CITY, OKLA.—John W. Sartell, Pres. Oklahoma Traction Co., has left for the East to let contracts for material and construction of two power houses for the company in this city and in Guthrie; cost, about $500,000. The company expects to complete its road by Jan. 1.

SPOKANE, WASH.—Calvin Lunceford, of Ritzville, Pres, Adams County Electric Transit Co., states that his company expects to begin work so as to have the line operating between Washtucna and Spokane by next spring. A dam 1,600 ft. long will be built at Palouse Falls, where the power house will be located, and will cost about $148,000; 5,000 HP. will be devoloped; contracts will soon be let. Wm. Adams, Spokane, is interested.

GREER, IDAHO.—James Stuart is making a survey for an electric line from Lolo Creek to Nez Peces for J. Z. Johnson, according to reports.

SALT LAKE CITY, UTAH.—C. L. Furey, Pres. Salt Lake & Suburban Ry., states that work will start on that road within the next 60 days, and that the line to Mill Creek, Murray and the smelters will be the first built. A 1,200-HP. electric plant will be erected on Mill Creek and the power derived will be used for operation.

LIGHT, HEAT AND POWER PLANTS.

MADISON, ME.—The Hall & Reed Contracting Co. have been awarded contract for $30,000 municipal electric light plant on Sandy River.

MILFORD, N. H.—Improvement to cost $5,000 will be made to plant of Milford Electric Light Co.

SOMERSWORTH, N. H.—We are informed that contract with United Gas & Electric Co., Dover, N. H., is pending for street lighting for five or ten-year term. J. H. Harris is Mayor. Other reports state if contract is awarded to the above company they will improve their plant.

BRIDGEWATER, MASS.—The Old Colony St. Ry. Co. is said to consider erection of power house on Pleasant Ave.

SHELBURNE FALLS, MASS.—Water rights at Scott Bridge have been sold and may be developed.

NEW HAVEN, CONN.—Contract for 175-ft. long and 25-ft. high dam at Borden, Conn., has been let to B. D. Pierce, Jr., Co., Bridgeport, Conn. The dam will make a 30,000,000-gallon lake and will be used to develop power for the electric roads in this vicinity owned by the New Haven.

NEW YORK, N. Y.—Mayor Low has held conferences with the Consolidated Gas Co. regarding the establishment of a gas plant by the company at Ravenswood, which would mean the removal of the gas plants from Manhattan Borough to Queens Borough.

HARRISBURG, PA.—Pintsch Gas Co., 160 Broadway, New York, N. Y., has asked bids for 2-story, brick and steel, fireproof gas house at this place; complete equipment will be added.

MANCHESTER, VA.—The Merchants' Co-Operative Light & Power Co., John Murphy, Pres., has asked for franchise.

NEWPORT NEWS, VA.—Consumers' Light, Heat & Ice Co. may make extensive improvements, having issued $250,000 of bonds for that purpose.

MOUNDSVILLE, W. VA.—Moundsville Electric Co. contemplates improving its plant; has asked for a 50-year franchise.

BURLINGTON, N. C.—We are informed that bids will probably be received Aug. 25 for proposed $8,000 municipal electric plant, for which Collier & Brown, Atlanta, Ga., are Des. Engrs. The plant is to be operated by steam and is to have a capacity of 60 arc, 1,200 c. p. each, and 800 incandescents of 16 c. p. each.

CHERAW, S. C.—Bids are asked until Aug. 12 for installing electric light plant. L. F. Westerlaund is Engr.

LANCASTER, S. C.—Local cotton mills consider installation of electric plant for lighting town.

DAWSON, GA.—Contract for supplanting present city lights with inclosed arcs let to General Electric Co., Atlanta, Ga., for $1,976.

GRIFFIN, GA.—We are informed that the Towalinga Falls Power Co. will build dam, canal and power house for development of 3,000 HP. with company forces and will not let contracts for the work. The estimated cost of the plant is $200,000, and Wm. C. Whitner, Richmond, Va., is Des. Engr.

WINDER, GA.—Bids are asked until Aug. 12 for furnishing apparatus and supplies for municipal electric light plant, to consist of 60-KW. a.-c. generator, exciter and switchboard, 125-HP. high-speed engine, 125-HP. Corliss engine, 32 series enclosed arc lamps with automatic regulator, two return tubular boilers, one water-tube boiler, one feed-water heater, power house, poles, wire. Collier & Brown, Atlanta, Ga., Des. Engrs.; A. A. Camp, Mayor.

CLAYTON, ALA.—Contract for constructing city light and water-works plant has been let to T. D. Grubbs & Co.

LAKE CHARLES, LA.—Lake Charles Ice, Light & Water-Works Co., J. A. Landry, Pres., has asked franchise for gas plant.

GEORGETOWN, KY.—Bids are asked until Aug. 7 for 100 20-c.-p. lights for city for a five-year period, lighting to be done by electricity, gas, gasoline or oil. J. W. Keller, Mayor.

JACKSON, KY.—Jackson Electric Light & Power Co. will erect power house here.

COLUMBUS, O.—The Indianola Heating & Lighting Co. has asked for an enlargement of its franchise for the purpose, it is said, of entering into competition with the local lighting companies.

COLUMBUS, O.—Contract for construction 118 x 190 ft. power house, Scioto Valley Traction Co., at Circleville, let to J. M. Westwater & Co.

DELAWARE, O.—The Columbus, Delaware & Marion Electric R. R. Co., John G. Webb, Pres., is said to contemplate erection of $350,000 power house in Marion, for use of Marion City Ry. and for lighting the municipality.

NEWARK, O.—Randolph Brown, Supt. city electric plant, writes that the council has taken some steps toward installing incandescent lights, although nothing definite has been done.

FT. WAYNE, IND.—The Ft. Wayne Electric Light & Power Co.'s franchise for 31-year period has been granted by board public works. It calls for a 20% reduction in price of lighting.

INDIANAPOLIS, IND.—Rough draft of proposed city electric lighting specifications shows that the contract will be let for 10-year period, from Jan., 1905. Bids are to be on all-night schedule and moonlight schedule and are to be for 1,500 inclosed-type lamps, with privilege of city to increase this number to 2,000.

NOBLESVILLE, IND.—The Noblesville Hydraulic Co., which has contract for street lighting when present agreement expires, will put a 16-ft. dam across White River at a cost of $50,000 for furnishing power for its electric plant and manufacturing concerns.

RICHMOND, IND.—Richmond Light, Heat & Power Co. has let contract to S. O. Yates at $5,000 for addition to its plant. New machinery will be added.

ALPENA, MICH.—E. M. Deane Co., Ltd., Grand Rapids, Mich., has bought works of Alpena Gas Co., and will double its capacity. The Deane Co. is also said to have two other gas propositions under negotiation.

NILES, MICH.—F. M. Gray, of this city, is interested in development of power from the river at South Bend. Stated that 2,000 HP. can be developed.

WAKEFIELD, MICH.—Village will vote on erection of $10,000 electric light plant.

BERWYN, ILL.—Bids are asked until Aug. 12 for installing municipal electric light plant. Chas J. Whitney, Carman & Co., 88 La Salle St., Chicago, Ill., Des. Engr.; L. B. Wakeman, Village Clk.

LINCOLN, ILL.—A franchise for hot-water heating plant has been granted to H. C. Quisenberry, James T. Hobbit and others.

BEAVER DAM, WIS.—Contract for building for gas plant at this place let to Wisconsin Concrete Stone Co., B. J. Ashley, Gen. Mgr., Kenosha, Wis. Building will be constructed of Palmer Hollow concrete building blocks.

ALTA, IA.—Mayor E. W. Clemens writes us that contract has been let for heating plant.

CLARION, IA.—City votes to improve electric light plant and arrangements will be made soon.

MANKATO, MINN.—The Business Men's Association is organizing syndicate to construct and operate electric light plant.

TWO HARBORS, MINN.—Bids will be received by this village until Aug. 23 for changes to electric light and water plant, consisting of 150-KW. direct connected, single phase alternator; 250-HP. high-speed compound condensing engine and condenser, heater and boiler feed pump, 200-HP. boiler. Oscar Clausen, Nat. Ger. Am. Bank Bldg., St. Paul, Minn., is Consult. Engr.

FREMONT, NEB.—Surveys have been begun for the proposed Fremont Power Canal. They are being made by the John F. Kelly Engineering Co., 149 Broadway, New York, N. Y.

BEAUMONT, TEX.—The Beaumont Light, Ice & Power Co. will spend over $85,000 in improvements. Walter Myrick is interested.

BRENHAM, TEX.—Brenham Compress, Oil & Mfg. Co. has made proposition for lighting town.

BOULDER, COLO.—The Boulder & Denver Water Co. will ask permit to use certain water privileges on Boulder Creek. The company proposes to construct 110-ft. dam for a $1,000,000 electric light and power plant.

SEATTLE, WASH.—Bids are asked by Board Public Works until Aug. 25 for furnishing generators, exciters, transformers, switchboards, line wire and cables and insulators for municipal light and power plant. Bids are also asked for about 1,080 ft. 48-in. riveted steel pipe, and two 2,142-HP. and two 125-HP. impulse water wheels. C. B. Bagley, Secy.

SPOKANE, WASH.—Reported that the Adams County Electric Transit Co., C. Lanceford, Pres., will soon let contracts for power development at Palouse Falls. It is proposed to build a 1,600 ft. long concrete dam at a cost of about $148,000; 5,000 HP. will be developed.

SALEM, ORE.—Contract for lighting penitentiary, asylum, capitol building and school for blind for four-year term let to Citizens' Light & Traction Co.

ALHAMBRA, CAL.—San Gabriel Electric Power Co. may install electric lights in this city.

COLTON, CAL.—Reported that Edison Electric Co. may locate power house in this place.

RED BLUFF, CAL.—Geo. H. Flourney and E. P. Lukons have filed claim to 20,000 ins. of water in Thomas Creek for power development.

SAN FRANCISCO, CAL.—Robt. N. Frick, Secy. San Luis Gas & Electric Co., San Luis Obispo, Cal., writes us that date for opening bids for proposed extension of plant is uncertain. E. D. Hoyt, Mgr., San Luis Obispo, is Des. Engr., and official in charge.

SAN FRANCISCO, CAL.—F. J. Kester, Vice-Pres., North Mountain Power Co., writes us that at present they are only doing the early part of work of ditch construction and are not yet ready to take up question of supplies.

ST. HELENA, CAL.—Town will have 60 32-c. p. incandescent lights, and reports state bids are to be called for furnishing this service.

SAN JOSE, CAL.—Contract for constructing power house San Jose Interburban Ry. Co. let to G. H. & S. Walker for $6,000.

BAKERSFIELD, CAL.—The Bakersfield Power, Transit & Light Co. has been formed to take over the Electric Light & Gas Co., and Power Development Co. The system will be extended both in this city and Kern.

HAMILTON, ONT.—The Hamilton Electric Light & Cataract Power Co. has let a contract to the Westinghouse Electric & Manufacturing Co., New York, N. Y., for machinery for its 18,000-HP. plant.

ORRILLIA, ONT., CAN.—Contracts for power plant at Ragged Rapids have been let as follows: Hydraulic work, William Hamilton Co., Peterborough, Ont., $9,250; electrical apparatus, Westinghouse Electric Co., $21,319.14.

PHOENIX, B. C., CAN.—Contract for erecting and equipping pole line for extending power line of Cascade Water, Power & Light Co. to Greenwood has been let to L. A. Campbell, Rossland, B. C.

BONDS.—Moultrie, Ga., Guy P. Felton, Supt. W. & Lgt. Dept., writes that city will vote Aug. 20 on $50,000 bond issue, $35,000 of which is for light and water extensions.——Hartwell, Ga., votes bonds for electric light plant.——Santa Ana, Cal., will vote on $100,000 bond issue, $60,000 of which is for lighting plant.——Waco, Tex., votes Aug. 18 on $600,000 bond issue; $100,000 for light plant and $500,000 for water-works.——Regina, N. W. T., Can., votes Aug. 10 on by-law for $135,000 for electric light, water-works and sewerage.

NEW COMPANIES.—Monterey County Gas & Electric Co., Los Angeles, Cal.; $750,000; M. V. McQuigg, C. W. Allen, R. C. P. Smith.——Power Transit & Light Co., Bakersfield, Cal.; $2,500,000; Chas. W. Willard, H. L. Atkinson, P. J. Muller.——New Century Light & Power Co., Denver, Colo.; $100,000; R. G. Munn, R. L. Parker.——Owens River Water & Power Co., San Francisco, Cal.; $3,000,000; James Block, F. Tallant, John Landers.

BRIDGES.

PILE TRESTLE BRIDGE.—Plans and specifications have been prepared by Franklin Vanwinkle, Consulting Engineer 39 Cortlandt St., New York, for a highway bridge over Barnegat Bay at Mantolaking, N. J., and bids will be received by the Board of Chosen Freeholders of Ocean County, N. J., as announced in our advertising columns.

The plans and specifications provide for taking up all of the present pile bridge each side of the draw span and for the construction of new pile and timber bridge approaches to the draw, each to have a 16-ft. carriage roadway and a 4-ft. sidewalk. The piling is to be oak, chestnut and cedar for various sections, according to lengths of pile required. The depth of water is shallow for most part. The bottom of bay is sea-shell sand to great depth, and the piles will be set and filled around by pump jetting, experience having shown that piles so set in this bottom at depths ordinary for bearing piles are as efficient as driven piles and cost considerably less for setting. The new sections of the bridge will have a combined length of about 989 ft.

The draw span is a wooden frame structure, which was built according to designs by the same engineer and was illustrated and described in Engineering News of Nov. 27, 1902. It is of the central pivot swing type of draw, when open affording two water ways each 50 ft. wide in the clear. This draw span has attracted considerable attention on account of its adjustability, ease and speed of manipulation and low first cost.

BATH, ME.—County will vote Sept. 7 on construction of $65,000 bridge at Merrymeeting Bay. J. R. Worcester, 53 State St., Boston, Mass., is Des. Engr. and Walter S. Gladden, Bath, is Clk of County.

PHILLIPS, ME.—Selectmen are considering rebuilding of a 90-ft. bridge.

BOSTON, MASS.—Reports from here state that New York Central R. R. Co. has planned to construct new bridge over Connecticut River the coming year.

DARTMOUTH, MASS.—Franchise granted Horseneck St. Ry. Co. contains clause that it must build bridge over Little River, also that it must spend $10,000 in widening causeway of present Padanaram Bridge.

HUDSON, MASS.—Contract for stone and cement bridge over Assabet River at Forrest Ave. let to Winch Bros. & Locher, Clinton, Mass., for $4,831.

TAUNTON, MASS.—Contract for building swing bridge with draw over Taunton River at Weir was let to the Eastern Bridge Co. for $17,970.

SEYMOUR, CONN.—We are informed that bids are received Aug. 6 for constructing plate girder or truss bridge on stone foundation at Broad and Pine Sts. Bridge is to have one span and is to be 22 ft. wide. George A. Divine has charge of advertising the work.

ANGELICA, N. Y.—H. B. Hooker & Son, Rochester, N. Y., have contract for building concrete abutments and piers for six bridges on the line of the Pittsburg, Shawmut & Northern R. R.

LYSANDER, N. Y.—This town will raise $5,000 or $6,000 as its share for repairing county bridges.

DEPEW, N. Y.—Village will vote on construction of $6,000 bridge over Cayuga Creek at Penora St.

GLEN COVE, N. Y.—Nassau County Supervisors are to be petitioned for construction of county bridge over the lower lake.

MILO, N. Y.—Contract for five iron bridges let to Rochester Bridge Co. for total of $2,487.

NEW YORK, N. Y.—Board of Estimate has authorized issue of $325,000 corporate stock for constructing bridge over Flushing Creek between Flushing and Long Island City.

PENN YAN, N. Y.—Following bids were received July 25 for constructing bridge over Swarthout Gully in Milo: Lane Bridge Co., Painted Post, N. Y., $3,660; E. E. Rogers, Rochester, Bridge Co. Montour Falls, N. Y.; (1) $2,970, (2) $3,220; United Construction Co., Albany, N. Y., $3,575; New Jersey Bridge Co., Manasquan, N. J., $3,416; Penn Bridge Co., Beaver Falls, Pa., $3,500; Groton Bridge Co., Groton, N. Y., $3,345; Weedsport Construction Co., Weedsport, N. Y. $3,450; Canton Bridge Co., Canton, O., $3,450.

WESTFIELD, N. Y.—Lake Erie Traction Co. has offered to unite with town in building new bridge to cost $22,000, the latter to pay $10,000 of this. If offer is not taken up company will probably erect bridge apart from highway at a cost of $10,000.

NEWARK, N. J.—County Freeholders may be petitioned to consider feasibility of rebuilding and widening the P. R. R. Centre St. bridge so as to accommodate trolley cars and other vehicles.

TOMS RIVER, N. J.—Bids are asked until Aug. 25 for building a timber pile bridge over Barnegat Bay at Mantoloking, as stated in our advertising columns. I. B. Osborn, Osbornville, N. J., Chn. Com. Plans and specifications for this work are on file at office of Engineering News, New York.

ALLENTOWN, PA.—Contract for steel superstructure of bridge over Monocay Creek at Bath let to Easton Foundry & Machine Co. for $3,956.

CARBONDALE, PA.—Contract for iron girder and concrete bridge at Fell Township let to Wm. Adair & Co., Olyphant, Pa., for $1,500.

GREENSBURG, PA.—New joint county bridge between Westmoreland and Washington Counties will probably be erected at Webster.

PHILADELPHIA, PA.—The following bids were received by Board Public Works July 30 for building bridge over Allegheny Ave., on New York division of Pennsylvania R. R.: John McMenamee, $96,248; Richard Walsh $97,575; Sparks & Evans, $118,000; Millard & McGrau, $119,500; McGaw & Co., $128,900; Ryan & Kelly, $129,294; David Peoples, $131,400; McCormick & Co., $131,640; Eyre Construction Co., $132,332; Farmer & Quinn, $133,373. Bridge is to have 100-ft. span and superstructure is to be of steel. The abutments and pier foundations are to be of concrete.

STROUDSBURG, PA.—Viewers report for rebuilding iron bridge by State over Broadhead's Creek has been confirmed. The cost will be about $60,000. James M. Shumacher, Harrisburg, is State Supt. Pub. Bldgs. and Grounds.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

SHARON, PA.—Movement for viaduct from South Main St. over tracks of Erie & Pittsburg R. R. has been endorsed by the County Commissioners. The cost would be about $75,000.

CUMBERLAND, MD.—Contract for iron bridge, east of Bedford, let to Nelson & Buchanan, Chambersburg, Pa., for $7,150.

WASHINGTON, D. C.—The following bids were received July 25 by Col. Chas. G. Allen, U. S. Engrs., for constructing highway bridge over the Potomac River; $895,000 is available for the work: Scherzer Rolling Lift Bridge Co. Chicago, Ill., $894,000, with wooden pavement; Pennsylvania Steel Co., Philadelphia, $914,200, includes sheet asphalt pavement, (2) $879,200 with temporary wooden pavement; McMullen & McDermott, New York, (1) $937,000 with asphalt, (2) $892,000 with wooden pavement.

ST. ELMO, VA.—Geo. E. Garrett writes us that the proposed steel bridge for Four Mile River is to have roadway 20 ft. wide; the distance between walls is 42 ft. It will have a wooden floor and the center load capacity is to be 20 tons. The supervisors desire that designs be submitted with estimate, and factor of safety also stated. Bids for the above work are asked until Aug. 10, as is stated in our advertising columns.

GREENVILLE, S. C.—Contract for rebuilding the Dunham bridge has been let to King Bros. The bridge will be 140 ft. long with steel spans.

SPARTANBURG, S. C.—Contract for Burnt Factory bridge let to King Bridge Co., Des Moines, Ia., for $1,725.

JASPER, ALA.—Contract for building steel bridge over Lost Creek at Price Ford will be let at county court house Aug. 11. Jas. W. Shepherd, Judge of Probate.

LOUISVILLE, KY.—The Kentucky Traction Co., which is to build an electric line from Louisville to Nashville, has decided to build its own bridges. They are to be of steel.

CINCINNATI, O.—County Commissioners will take steps to replace "Lost Bridge," near Cleves, with a modern iron structure at a cost of about $150,000.

CLEVELAND, O.—Bids are asked until Aug. 10 for furnishing about 120,000 ft. B. M. white oak, 50,000 ft.; maple and 50,000 ft. beech of 2-in. sheathing for city bridges; also for furnishing and laying 50,000 ft. white oak 50,000 ft. maple and 50,000 ft. beech for Central Viaduct. W. J. Springborn, Pres. Bd. Pub. Service.

EAST YOUNGSTOWN, O.—The B. & O. R. R. Co. contemplate building bridge over their tracks to connect with bridge from Youngstown Iron Sheet & Tube Co.'s yards.

ELYRIA, O.—City will erect double-arch stone bridge over west branch of Black River at Mussey Ave. at a cost of $13,000.

STEUBENVILLE, O.—Secretary of War has approved the plans for new bridge near Market St.

TIFFANY, O.—Contract for erecting iron and stone bridge at Coe St. let to Canton Bridge Co. for $8,300.

TOLEDO, O.—Contract for bridge at Maumee and Perrysburg for the Toledo Urban & Interurban Ry. Co. let to the Toledo branch of American Bridge Co. The structure will be 1,400 ft. long, with five 160-ft. spans and a plate girder approach.

YOUNGSTOWN, O.—E. M. Scofield, Engr., has reported to city officials that East End bridge could be put in repair for $53,000. It is probable that work will be commenced soon.

KNIGHTSTOWN, IND.—New bridge to be built over Blue River south of this place, by Rush County.

MISHAWAKA, IND.—We are informed that the following bids were received July 21 for constructing iron work of 375-ft. bridge over St. Joseph River: Massillon Bridge, Toledo, O., $44,560; Pan American Bridge Co., New Castle, Ind., $42,781; King Bridge Co., Cleveland, O., $46,000; Indiana Bridge Co., Muncie, Ind., $43,953; Bracket Bridge Co., Cincinnati, O., $41,777; Lafayette Engineering Co., Lafayette, Ind., $41,376; Canton Bridge Co., Indianapolis, Ind., $44,500; Penn Bridge Co., Beaver Falls, Wis., $44,500; Pennsylvania Steel Co., Chicago, Ill., $48,807. Bids for masonry were received as follows; itemized bids for this work being given under contract prices: Rudolph S. Blome & Co., Chicago, Ill., $24,491; J. C. O'Connor, Delphi, Ind., $31,045; H. E. Talbot & Co., Dayton, O., $24,166; Savage Construction Co., Chicago, Ill., $28,218; Peter Suzio, Mishawaka, Ind., $38,648. Bids as follows were received for Melan Arch bridge for the above work; H. E. Talbot & Co., Toledo, O., $61,763 (awarded contract); Peter Suzio, $56,000; R. I. Blome & Co., $61,836; Jas. O. Heyworth, Chicago, own plans, $56,000, without embankment; Savage Construction Co., $65,030.

NEW CASTLE, IND.—Contract for building all bridges required by the Indiana Union Traction Co. for its line between here and Anderson was let to Pan American Bridge Co.

PAOLI, IND.—Bids are reported asked by County Commissioners until Aug. 20 for constructing bridge in Orangeville township. Geo. W. Tegarden, County Audr.

PERU, IND.—County has appropriated $16,000 for repairing bridges in Erie, Richland and Jefferson Townships.

SHELBYVILLE, IND.—Contract for erection of 16 stone bridges for Indianapolis & Cincinnati Interurban line has been let to William Avery, Waldron, Ind.

SAGINAW MICH.—The following bids were received July 23 for constructing the Genesee Ave. bridge: Superstructure—American Bridge Co., New York, N. Y., $99,155; Milwaukee Bridge Co., Milwaukee, Wis., $116,000; King Bridge Co., Cleveland, O., $103,245; Pennsylvania Steel Co., Steelton, Pa., $127,400; National Bridge Co., New York, N. Y., $104,800; Chicago Bridge & Iron Works, Chicago, Ill., $110,000. Substructure—John J. Granville, $49,300; John Geisel & Co., $50,485. John P. Cowing, Cleveland, O., also submitted a bid of $143,000 for bridge complete.

BRUCE, ILL.—Highway Commissioners of Bruce, Eagle, Farm Ridge and Vermillion have voted to build $10,000 bridge over Vermillion River at Sandy Ford.

STERLING, ILL.—Township has voted to construct $50,000 bridge at Ave. G.

MILWAUKEE, WIS.—Contract for bridge at West Water St. has been let to F. W. Moore for $127,000.

CROOKSTON, MINN.—Contract for steel bridge over Red Lake River has been let to the Minneapolis Steel & Iron Co., Minneapolis, Minn., for $7,500.

HOKAH, MINN.—Township votes to erect $3,100 steel bridge over Root River.

DULUTH, MINN.—City will repair four wooden bridges at a cost of about $7,500. W. B. Patton is Cy. Engr.

KANSAS CITY, KAN.—Bids are asked until Aug. 31 for constructing steel bridge over Kansas River at 12th St.; also for double-deck steel bridge on Kansas Ave. F. M. Holcomb, County Clk. (See advertising columns.)

ORD, NEB.—Contract for constructing steel, two-span bridge over North Loop River at this point let to Canton Bridge Co. for $10,000.

HOUSTON, TEX.—Bids are asked until Aug. 12 for constructing wooden, creosoted, Howe truss bridge over Brays Bayou on Kuhlman and Aloin Road. Blake Dupree, County Judge.

HOT SPRINGS, ARK.—The lowest bid received from 19 bidders on the Ouachita River bridge, near Smith's Ferry Crossing, was that of the John Gilligan Co., their bid being $46,750.

LOS LUNAS, N. MEX.—Bids are asked by the county commissioners until Aug. 31 for constructing 16-ft. wide bridge over Rio Grande River, near Belen; bond of $5,000. Anastacio Padilla, Comr.

CHEHALIS, WASH.—Contract for trestle for bridges at Toledo let to J. B. Tillotson, Portland, Ore., for $1,340.

ANAHEIM, CAL.—Pacific Electric Ry. will require three bridges over the Santa Ana River on its line between Los Angeles and Riverside.

LOS ANGELES, CAL.—Contract for building Falling Leaf Ave. bridge, spanning the San Gabriel River, near Azusa, let to J. D. Mercereau, for $7,988.

MODESTO, CAL.—Stated that contract for replacing bridge at Oakdale has been let to Pacific Construction Co. for $17,850.

NAPA, CAL.—Bids are asked by the county supervisors until Aug. 10 for constructing stone bridge over Bell's Creek; also a stone bridge near St. Helena.

OAKLAND, CAL.—Contract for constructing steel and concrete bridge over Dry Creek let to Cotton Brothers for $2,567.

REDDING, CAL.—Robt. L. Reading, County Surv., has been engaged on plans and specifications for complete repair of Redding Free Bridge.

UKIAH, CAL.—Contract for bridge over Anderson Creek let to E. M. Duff for $2,015.

BUILDINGS.

WATERVILLE, ME.—Bids will be received until Aug. 10 for building a public library. W. R. Miller, Arch., Lewiston; C. W. Davis, Mayor. Bids are also asked until Aug. 12 for the construction of a new school. E. T. Wyman, Secy. Bldg. Com.

PORTSMOUTH, N. H.—The contract for building a 3-story fireproof storehouse has been awarded to O'Brien & Hollihan, at $131,000.

OSSIPEE, N. H.—Bids will be received until Aug. 8 for building a county jail, according to the plans and specifications of Randlett & Griffin, Archs., Concord.

BOSTON, MASS.—A new school costing $180,000 is to be erected upon the site of the old Ware primary school house.——Plans for the new Waterbury Hotel have been completed. It will be a 6-story fireproof building, 100 x 100 ft., and is estimated to cost $400,000.

LYNN, MASS.—Bids are asked until Aug. 12 for building an eight-room brick school building. Chas. H. Spear, Clk. of Com.

LAWRENCE, MASS.—Architect Ashton will soon complete plans for the Second Ward school. Plans call for a building to cost $100,000.

MARBLEHEAD, MASS.—Engineer Ricker, of Salem, has completed plans for new federal building.

WORCESTER, MASS.—The Thule Music Hall Assn. is to erect a 7-story building on Main St.

HARTFORD, CONN.—The Aetna Insurance Co. has secured a permit for the erection of a 5-story building that is estimated to cost $400,000. Wm. B. Clark, Pres.

NEW HAVEN, CONN.—Bids are asked until Aug. 10 for rebuilding the Eaton St. School. G. T. Hewlett, Secy. Bd. Education.

WATERBURY, CONN.—The contract for the new post office has been awarded to Fissell & Wagner, St. James Bldg., New York, at $76,223.

ALBANY, N. Y.—Reports state that the Siegel-Cooper Co., of Chicago and New York, has purchased a site at 119 State St., and will erect a new building.

ASTORIA (L. I.), N. Y.—The contract for St. George's Episcopal church has been let to F. W. Goble, 44 Wardell St., Long Island City, at $50,000.

BUFFALO, N. Y.—Francis G. Ward, Comr., will soon ask for bids for the new 16-room brick school building on Jefferson St.

NEW YORK, N. Y.—The lowest bid received by Commissioner Livingston for repairing the county court house was that of John Sheehan & Co., at $101,400. The contract has not been awarded.——Wm. Waldorf Astor is to erect a $400,000 building on the southwest corner of Fifth Ave. and 36th St. The Gorham Co. has already leased the property for 21 years.

NEW YORK, N. Y.—Plans have been filed for the erection of a new jail and court house at Richmond, S. I.; cost, $80,000.

NEW YORK, N. Y.—Bids will be received by the armory board, 280 Broadway, until Sept. 1, for building an armory for the Second Battalion Naval Militia in Brooklyn.——Bids are asked until Aug. 6 by the Dept. Public Charities, foot of East 26th St., for altering the boiler house, and installing hot water main in Metropolitan Hospital, at Blackwell's Island. Homer Folks, Comr.

NEW YORK, N. Y.—Howells & Stokes, Archs., have completed the plans for the new home of the N. Y. Institution for the Blind at 165th St. and Broadway.——The Fleischmann Realty & Construction Co. has secured the contract for building the new 69th Regiment Armory at $617,300.

NEW YORK, N. Y.—Plans have been filed by A. E. Badt, Arch., Union Sq., for 6-story building at Grand and Willett Sts., for B. Gabrilowitz, 29 Ridge St.; cost, $50,000. By H. I. Howell, Arch., Third Ave. and 138th St., for 7-story brick loft on 21st St., east of Sixth Ave., for G. E. Banhahn, 101 W. 115th St.; cost, $60,000. By W. B. Tubby & Bros., Archs., 81 Fulton St., for 14-story brick loft, 250 x 98; at 310-338 W. 38th St., for Printers' Realty Co., 452 Fifth Ave.; cost, $1,000,000. By Bernstein & Bernstein, Archs., 72 Trinity Pl., for 6-story brick tenement, at 208 Thompson St., for N. Navarsky, 9 W. 118th St.; cost, $30,000. By Horenburger & Straub, Archs., 122 Bowery, for 6-story brick tenement at Park Ave. and 117th St., for M. Gold, 1771 Madison Ave.; cost, $40,000. By G. F. Pelham, Arch., 503 Fifth Ave., for 6-story brick flat house, 40 x 87 ft., at 134-136 E. Second St., for J. Horwitz; cost, $42,000. By Schwartz & Gross, Archs., 160 Fifth Ave., for 5-story brick flat, at Bradhurst Ave. and 151st St., for J. J. Follett, 108 W. 102d St.; cost, $65,000. By Kurtzer & Rentz, Archs., Spring St. and Bowery, for 7-story brick workshop at 337 Rivington St., for E. J. Engel, 239 E. 11th St.; cost, $11,000. By H. W. Howard, Jr., Arch., 5 E. 14th St., for 6-story brick flat, at 220 E. 36th St., 31 x 143 ft., for W. C. Dewey, Springfield, Mass.; cost, $80,000. By Wilson & Visscher, Arch., 156 Broadway, for 5-story brick office building, 60 x 125 ft., at 423-427 Fifth Ave., for N. A. Siebrecht, Windsor Arcade; cost, $75,000. By G. F. Pelham, Arch., 503 Fifth Ave., for 6-story brick flat, 50 x 86 ft., at 14-16 W. 127th St., for Herskovitz & Roth, 31 E. 7th St.; cost, $52,000. By Rowland & Emrich, Archs., for 2-story brick storage building, at 250-252 W. 23d St., 50 x 98 ft., for Manhattan Transit Co., 250 E. 48th St.; cost, $25,000.

ATLANTIC CITY, N. J.—Chas. Myers, Proprietor Hotel Rudolph, is having plans prepared for an addition to the hotel, to cost $50,000. Elevators and steam heating plant to be installed.

BATESVILLE, N. J.—Reported that bids will soon be asked for a $75,000 federal building.

CAMDEN, N. J.—Bids are asked until Aug. 12 for remodeling jail and office building. Wm. Anderson, Chn. Court House Com.

CAMDEN, N. J.—Bids will soon be asked for the erection of the new court house and jail. It will be a 4-story fireproof building and is estimated to cost $550,000. Rankin & Kellogg, 1012 Walnut St., Philadelphia, are the architects.

KEARNY, N. J., P. O. Newark.—The building committee is securing a site for a new town hall. Mr. Greenfield is Chn.

TRENTON, N. J.—E. A. Stevens writes us that the plans for constructing hospital are being prepared by Geo. B. Post, but that the details have not yet been determined.

IRWIN, PA.—County commissioners opened bids for the new court house here on July 18: Brown-Ketcham Iron Works, Greensburg, Jan. 15, 1905, Bodwell granite $933,000, Howell granite $945,000, Cleveland sandstone $840,000, Bedford limestone, $850,000; Henry Shenk Co., Pittsburg, two years, Maine-N. H. granite $898,535, Mt. Waldo granite $898,535, Howell granite $912,035, Webb or Maltby granite $923,535, Cleveland sandstone $777,000; Thompson-Starrett Co., 18 months, Vermont granite $910,000, Keene, N. H., granite $897,000, Concord granite $804,000, Cleveland sandstone $827,000, Bedford limestone $842,000; Doyle & Doak, Philadelphia, 22 months; North Jay granite $908,000, Winsboro granite $937,000, White granite $942,000, Cleveland sandstone $824,000, Green River limestone $856,000, Hunnellstown brownstone $821,000, Bedford limestone $827,000; William Miller & Sons, Pittsburg, Sept. 1, 1905, Maine and N. H. granite $878,000, Concord granite $909,000, Webb granite $900,000, Cleveland sandstone $770,000, Winsboro granite $846,000, Bedford limestone $775,000; Caldwell & Drake, Columbus, Ind., 26 months, Webb granite $943,000, Maine and N. H. granite $922,400, Cleveland sandstone $760,000, Webb granite and fireproof system $919,500, Maine and N. H. and fireproof system $909,400, Cleveland sandstone and fireproof system $797,700; Geo. W. Cook & Co., Greensburg, April 1, 1906, Maine and N. H. granite or Howell granite $952,000, other granite $942,000, Cleveland sandstone $851,000.

GREENSBURG, PA.—The contract for the Westmoreland county court house has been let to Wm. Miller & Sons, of Pittsburg, at $878,000.

PHILADELPHIA, PA.—Dornan Bros. write us that the contract for the building at 1518 Howard St. has been let to A. Whitehead.——Milligan & Webber, Archs., have completed plans for the extension to the Third Regiment Armory.

PITTSBURG, PA.—The 18th Infantry has purchased a site on Craft Ave. for their new armory.

YORK, PA.—The York Telephone Co. are having plans prepared for an exchange and office building. It will be a 5-story fireproof building; cost, $100,000.

WILMINGTON, DEL.—Arthur L. Nicholson, Arch., informs us that the plans will be ready in about four weeks for the erection of the 10-story fireproof office building on 10th and Market Sts. It will be built of Indian limestone and brick, and will be equipped with an electric light plant and four passenger elevators. Cost, $600,000.

ANNAPOLIS, IND.—The contract for building the chapel at the Naval Academy has been let to the Noel Construction Co., Baltimore, at $394,000.

WASHINGTON, D. C.—The Penn. Ry. Co. and D. H. Burnham & Co., Chicago, are said to be receiving bids for the new terminal. It will be a 3-story fireproof structure of marble and granite. Cost, $3,000,000.——Bids will be received by the district commissioners for a school at Sixth and G St. Two-story brick and stone building; cost, $40,000.——Glenn Brown, Arch., 918 F St., N. W., will receive bids for a 4-story brick and stone residence for J. Beale at R and Mass. Ave., N. W.; cost, about $50,000.

NORFOLK, VA.—The Virginia & Carolina Trust Co. is having plans prepared for an office building to cost about $300,000. J. W. Perry, Mgr.

RICHMOND, VA.—A new armory is contemplated.

WHEELING, W. VA.—Baldwin & Pennington, Archs., 44 South St., Baltimore, Md., inform us that the plans are not yet completed for the B. & O. R. R. terminal building.——A new post office is to be erected on Chaplin St.

ASHEVILLE, N. C.—The Coxe Estate are having plans drawn for two large office buildings. Francis S. Coxe, Dir.

CLINTON, S. C.—President Spencer is preparing to build a college on Broad St.

COLUMBIA, S. C.—Plans are completed for the new guard building at the state penitentiary.

ATLANTA, GA.—P. Thornton Marye, Washington, D. C., has completed plans for the new depot of the Atlanta Terminal Co. Bids will soon be asked for.——Contracts to the amount of $189,000 were awarded to Nicholas Ittner and John Hecker for the new buildings at Fort McPherson.

AUGUSTA, GA.—Plans are completed for the new Masonic Temple. Wm. Schweigert, Trustee.

CHICKAMAUGA PARK, GA.—Bids are asked until August 26 for constructing, plumbing, heating and gas piping of 15 buildings at the new military post. Capt. H. J. Slocum, Q. M., Chattanooga, Tenn.

VALDOSTA, GA.—Frank Milburn's Arch., Columbia, S. C., plans for the $60,000 new court house has been accepted.

JACKSONVILLE, FLA.—Plans for the new jail have been accepted by the county commissioners.

BIRMINGHAM, ALA.—The Freedman's Aid and Southern Education Society is to erect a $50,000 college.

JACKSON, MISS.—Carl J. Seutter is to erect a 5-story office building at a cost of $60,000.

BATON ROUGE, LA.—S. I. Reymond writes us that the contract for the Istromma Hotel Co. has been let to Robert Palestine, New Orleans, at $90,000.

MEMPHIS, TENN.—The site for the $100,000 industrial school has been selected.——A new theatre is to be erected at Hernando and Gayos Sts.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

KNOXVILLE, TENN.—Crooked Fork Coal & Coke Co. are about to erect a brick office building.

WARTBURG, TENN.—A new court house is to be built.

CLEVELAND, O.—Bids will be received by the board of education, Rose Bldg., until August 24, for building the annex to the Central High School. Starr Cadwallader, Director.

GIBSONBURG, O.—Bids will be received until August 17 for the building of a church for St. Michael's congregation, according to plans on file at the office of Wm. P. Ginther, Arch., Akron, or Rev. John B. Wendling, Gibsonburg.

MT. VERNON, O.—Bids will be received by the Board of Education until Aug. 20 for building an addition to Third Ward School. R. M. Greer, Clk.

TRINWAY, O.—Bids are asked until August 8 for an addition to the school building. J. D. Webner, Clk.

ATTICA, IND.—The library board has rejected all bids for the construction of Carnegie Library. Bids will be re-advertised. Ed. Fallis, Toledo, O., is architect.

CRAWFORDSVILLE, IND.—Timothy Casey is said to be receiving plans for the building of a brick flat on E. Main St.

BEDFORD, IND.—A new federal building to cost $75,000 is to be erected.

ELWOOD, IND.—R. L. Leeson is having plans drawn for a 5-story business block that is estimated to cost $100,000.

MARION, IND.—August 19 is the date set for selecting a site for the new federal building. Evan Feree, postmaster.

ROCKVILLE, IND.—The commissioners are receiving bids for the new county house.

LAPEER, MICH.—The contract for the new stone post office has been let to Jos. Armstrong.

GRAND RAPIDS, MICH.—A new business block is to be erected at Louis and Ottawa Sts. at a cost of $100,000.

MOUNT PLEASANT, MICH.—Bids will be received at the Interior Office of Indian Affairs, Washington, D. C., until August 11 for the building of a brick addition to school, mess hall and brick hospital. E. C. Nardin, Supt. Indian Sch., and A. E. Tonner, Acting Comr.

CHICAGO, ILL.—The contract for the school of the Church of the Visitation has been let. It will be built of stone; cost, $100,000.——S. E. Gross has let contract for the erection of 20 residences on Greenwood Ave., to cost $125,000.

DAVENPORT, IA.—The Duggleby Bros. is to build a natatorium.

HAMPTON, IA.—Bids are asked until Aug. 24 for installing hot water heating and plumbing in the Hampton Public Library. Chas. Krag, Secy.

ST. PAUL, MINN.—Bids will be received until August 10 for the construction of a stone and brick armory. Geo. C. Lambert, Secy.

BILLINGS, MONT.—Reports state that bids will be received by the county commissioners until August 25 for the building of the new $15,000 court house.

DILLON, MONT.—The contract for building the county jail has been let to Phil. Anderegg at $81,176.

KALISPELL, MONT.—The plans drawn by Geo. H. Shanley for the new city hall has been accepted.

KIRKSVILLE, MO.—The contract for new $40,000 government building will be let Aug. 12.

CAPE GIRARDEAU, MO.—Bids will be received until August 19 for the construction of a new stone Academic Hall. L. J. Albert, Secy.

BEETON, TEX.—The building of a new city hall, fire station and Carnegie library is soon to be commenced.

CORPUS CHRISTI, TEX.—Moling Bros., Columbus O., have purchased the site for the building of a pleasure resort. A hotel to cost $150,000 is to be erected, an electric railway, theatre, club house, etc., will also be built.——A Baptist College is contemplated. Arthur Willet is interested.——A new hospital is talked of.

HOUSTON, TEX.—The First National Bank is to erect a 7-story, steel frame, fireproof office building on Main and Franklin Sts. Contract will soon be let.

HOUSTON, TEX.—C. Lewis Wilson, Arch., Beaumont, has completed the plans for the 8-story office building for J. S. Rice. An electric light and power plant will be installed. Contract will be let in two months.

SAN ANTONIO, TEX.—A $50,000 school bond is to be voted upon.

SARATOGA, TEX.—A new hotel is to be erected by W. B. Jones.

TEXARKANA, TEX.—A $150,000 public school building is to be erected.

WACO, TEX.—The contract for federal building has been let to F. L. Stevenson, Dallas, at $73,900.——The plans for five new schools are being prepared.

WAXAHACHIE, TEX.—The Cumberland Presbyterian congregation is planning the erection of a new church.

DENVER, COLO.—Alterations under the supervision of Lee Ullery will be made to the federal building.

SEATTLE, WASH.—Bonds to the amount of $400,000 have been issued for the erection of new schools.

SEATTLE, WASH.—A 4-story brick and stone building will be erected by C. J. Erickson; cost, $50,000.——The contract for the Stewart & Holmes building has been let to Alex. Pearson at $58,000.

TACOMA, WASH.—The new armory is to be two stories, brick, 100 × 200 ft.; cost, about $50,000. Contract will soon be let.

WHATCOM, WASH.—School district number one is to erect a $46,000 school.

ASTORIA, ORE.—Bids will be received until August 8 for constructing the plumbing, heating and electric wiring of one field officers' and one double set of lieutenants' quarters at Fort Stevens, Ont. Capt. Goodale, Q. M.

FORT ROSECRANS, CAL.—Bids are asked until Sept. 4 for the construction, plumbing, heating and electric wiring of two double officers' quarters, one double M.-C.-O. quarters and one coast artillery barracks at Fort Rosecrans, as stated in our advertising columns. Capt. R. H. Rolfe, Q. M., 34 Keating Block, San Diego, Cal.

MOUNT BULLION, CAL.—Bids will be received until August 10 for the construction of a ward at the county hospital. W. E. Gallison, Clk.

LOS ANGELES, CAL.—Plans of Theo. Eisen, Arch., for Good Samaritan Hospital have been accepted. Building will cost about $80,000.——Thomas Higgins is to erect an 8-story building to cost $250,000.

PASADENA, CAL.—The Pasadena school district has issued $50,000 in bonds for the erection of a new school.

SANTA MONICA, CAL.—A new library building is under discussion.

SAN FRANCISCO, CAL.—Henshaw & Pattiani is to erect a 6-story brick building; cost, $70,000.——The Occidental Hotel is to reconstruct the interior of hotel at a cost of $110,000. Frank L. Hooper may be addressed.——City Engineer Grunsky has completed the plans for the new jail. It will be a 6-story brick structure; cost, $697,000.——The Union League Club is to erect a 12-story steel structure at a cost of $160,000.

SAN DIEGO, CAL.—Bids are asked until August 8 for an annex to the State Normal School. R. M. Powers, Pres. of Bd.

ST. HELENA, CAL.—The plans drawn by McDougall Bros., Archs., San Francisco, for $100,000 hotel have been accepted.

SAN FRANCISCO, CAL.—A. Aroson has purchased a site and will erect a $180,000 office building.

SALT LAKE CITY, UTAH.—The plans have been accepted for the new court house. A. A. Neff, Co. Clk.

WATER SUPPLY AND IRRIGATION.

BRUNSWICK, ME.—Test wells for public water supply have been sunk and it is expected that the town will have its own water supply by next year. Weston Thompson is a Water Trustee.

ATTLEBORO, MASS.—Wm. M. Stone, Water Comr., writes us that town itself lays the pipe for proposed water-works extension, under supervision of G. W. Babcock, Asst. Supt. The proposed extension to Talaquega Park is about 2½ miles long.

BOSTON, MASS.—Council has passed ordinance appropriating $300,000 for construction, by Water Commissioners, of new and replacing of old water pipe.

SHELBURNE FALLS, MASS.—John L. Collins, Engr., has reported that village can secure gravity water supply from Avery Brook for $70,793, or from Clark Brook for $41,616.

GREENWICH, CONN.—Press reports state that many farms in this neighborhood have been purchased and that these purchases mean the construction of a chain of reservoirs, the capacity of which may even equal that of the New York City reservoir system. N. A. Knapp, First Selectman, Greenwich, is said to be interested.

ALEXANDRIA BAY, N. Y.—Stated that Wm. H. Cookman, Niagara Falls, N. Y., has contract for constructing $80,000 water system for this village.

CANDOR, N. Y.—Village has voted for municipal water-works. Edgar B. Kay, Ithaca, N. Y., is Engr. Est. cost, $23,000.

NEW YORK, N. Y.—Bids are asked by the Commissioner Water Supply, Gas and Electricity, 13 Park Row, until Aug. 11 for furnishing and delivering c-i. water pipes, branch pipes, special castings and curb and cock boxes; for automatic water register reservoir gages, and furnishing, delivering and laying water mains in several streets in Queens, Manhattan and The Bronx and Richmond Boroughs. Robt. Grier Monroe, Comr.

NEW YORK, N. Y.—Bids are asked by Commissioner Water Supply, Gas and Electricity, 13 Park Row, until Aug. 13 for furnishing, delivering and laying water mains and removing existing water mains in various streets of Brooklyn Borough; security required, $100,000. Robert Grier Monroe, Comr.

SCHUYLERVILLE, N. Y.—Bids are asked until Aug. 27 for 576 tons 6, 8, 10 and 12-in. cast-iron pipe and 22,000 lbs. special castings, valves, valve boxes and hydrants; also for constructing water-works, pumping station and for furnishing engine and pump, all of which are described in our advertising columns. W. E. Bennett, Village Clk.

SENECA FALLS, N. Y.—N. C. Freck, Gen. Mgr. Seneca Lake Water Supply Co., writes that surveys and measurements for a plant to supply Waterloo and Seneca Falls have been made. The supply is to be from Seneca Lake at about three miles southeast of Geneva.

BORDENTOWN, N. J.—City has voted to take over plant of Bordentown Water Co.

GARFIELD, N. J.—A special election is called for Aug. 26 to vote on municipal water plant, the cost of which is estimated as follows: 12,000 lin. ft. 4 to 10-in. pipe, including laying, $10,000; 35 hydrants, with valves complete, etc., $1,800; land, $1,000; legal expenses, engineering, printing bonds, advertising, etc., $1,200; wells, pipe house and 25-HP. gasolene engine, with pump and suction pipes complete, $3,500; water tank and foundation, $1,000; incidentals, $500. Total, $19,000.

MANASQUAN, N. J.—Bids are asked until Aug. 25 for material and labor for complete system of works, consisting of pipes, valves, specials and fire hydrants, laying and setting of same; 15 × 115 ft. stand-pipe, two 9 × 10 triple pumps and two 21 HP. gasolene engines, three 6-in. wells, pumping station, concrete foundation for stand-pipe, pumps and engines, as stated in our advertising columns. Pugh & Downing, Lippincott Bldg., Philadelphia, Engrs. W. A. Mount, Borough Clk.

BEAVER, PA.—Beaver Valley Water Co. has purchased plant of Patterson Heights Water Co. and will extend the same.

DOYLESTOWN, PA.—Contract for new boiler at the water-works let to Lebanon Boiler Works for $935.

EASTON, PA.—Bids are asked until Aug. 19 for reinforcing, enlarging and lining reservoir with concrete and brick; work involves about 3,000 cu. yds. rock excavation, 12,000 cu. yds. embankment, and 1,500 cu. yds. concrete. A. Prescott Folwell, Consult. Engr.; Joseph Rodenbough, Pres., Lehigh Water Co. (See advertising columns.)

HONESDALE, PA.—Honesdale Water Co. will construct reservoir at outlet of Cajaw Lake.

MT. PENN, PA.—Bids are asked until Aug. 25 for building reservoir, furnishing and laying 4,000 ft. 4-in. and 8,000 ft. 6-in. pipes, valves, hydrants, etc. M. D. Hunter, Secy. Mt. Penn Water Co. (See advertising columns.)

PITTSBURG, PA.—Edw. M. Bigelow, Dir. Pub. Wks., has been instructed to prepare plans for furnishing filtered water to the entire city.

COATESVILLE, PA.—Bids are asked until Aug. 12 for laying about 4,300 ft. 16-in. cast-iron pipe and 2,200 ft., 10-in. pipe, with valves, hydrants, etc. Norman R. Entricken, Chn. Water Com. (See advertising columns.)

FAYETTEVILLE, N. C.—City will probably purchase plant of Fayetteville Water Works Co.

COLUMBUS, GA.—Bond holders of the Columbus Water Works Co. have petitioned that city be restrained from selling $250,000 water-works bonds, recently voted, and also from erecting a system of its own.

MONROE, GA.—City works contemplated.

GULFPORT, MISS.—Bids are asked until Aug. 25 for erecting works to consist of 8-in. artesian well, 800 tons 6 to 14-in. cast-iron pipes, 50 standard fire hydrants, 50 valves, 15 tons specials, 2,000,000-gallon compound duplex pump, 200,000-gallon brick receiving basin. Wm. F. Wilcox, Engr.; J. J. Ballinger, Mayor. (See advertising columns.)

MAGNOLIA, TENN.—Works being agitated.

AURORA, IND.—Contract for erecting plant for Aurora Water-Works Co. let to John S. Cole & Co., Chicago, Ill., for $95,000.

CHICKASHA, IND. T.—City will spend $125,000 for water-works and sewerage. Burns & McDonnell, 607 Postal Telegraph Bldg., Kansas City, Mo., are Des. Engrs.

NEW HARMONY, IND.—Proposition to build works here has been made by Sam James, Evansville, Ind.

RUSHVILLE, IND.—Increased water supply discussed.

BAY CITY, MICH.—City comptroller has been instructed to purchase 2,000 ft. 6-in. pipe, 3,000 ft. 4-in. pipe and 300 ft. 8-in pipe.

ESSEXVILLE, MICH.—Installation of works and paving to cost about $50,000 are considered.

FARWELL, MICH.—Referring to destruction of village works by fire, we are informed that a fireproof building 34 × 46 ft. and 16 ft. high is required. All repairs to machinery have been already contracted for. The water mains, however, may be extended about 5,000 ft. Louis L. Kelly, Village Pres.

TAWAS CITY, MICH.—Works and electric lights to cost about $20,000 discussed.

ELIZABETH, ILL.—Contract for erection of reservoir and iron works for water system let to Galena Iron Works for $8,550. Contract for installing system let to John Healy, Chicago, Ill.

LAKE FOREST, ILL.—City and water company have been trying to come to terms for purchase of plant, the former having recently offered $95,000 for it.

LINCOLN, ILL.—$50,000 has been subscribed for new water system.

THOMSON, ILL.—Town has voted on putting in $2,500 system of works.

DEPERE, WIS.—A. L. Holmes, Grand Rapids, Mich., has asked franchise for putting in water system. Supply is to be from artesian wells and the total cost, including $32,000 for purchase of present system, is $66,000.

EAU CLAIRE, WIS.—The Eau Claire Water Co. will build a storage reservoir about 200 × 60 × 12 ft., and will lay about 6,000 ft. 6-in. pipe. W. H. Willard, Supt.

SOUTH MILWAUKEE, WIS.—Plans for intake and crib for water works have been adopted. The intake is to be extended 3,800 ft. into the lake and an 18-in. pipe put in. A steel and stone crib will be built; est. cost, $15,000.

LONE TREE, IA.—We are informed that village is putting down 8-in. well and if this is successful it is hoped to put in a municipal water system. Mayor D. M. Riggs is official in charge.

OTTUMWA, IA.—Judge A. L. Parsons was named in the fourth order issued by the court as special master to sell the Ottumwa Water-Works.

JACKSON, MINN.—We are informed that bids were not to be received Aug. 1 for extension of water-works here. Bond issue for this work has not been voted yet. M. B. Haynes, Mankato, Minn., Des. Engr.

ALBION, NEB.—Bids are asked until Aug. 15 for material and sinking two 6-in wells, for cistern and for connecting same with pumping mains. E. H. Mullowney, Cy. Clk.

BEATRICE, NEB.—Municipal works discussed.

OMAHA, NEB.—The water-works appraisers will meet Oct. 1 to make an examination of local water system, to aid in setting a value on it, preparatory to its purchase by the city.

STUART, NEB.—Contract for works let to Ben Krotter, Knoxville, Ill.

BRIDGEWATER, S. DAK.—Contract for municipal $15,000 air pressure water-works has been let to J. Thompson & Sons Mfg. Co., Beloit, Wis. Contract for excavating, laying pipe, etc., has been sublet to Sioux Falls Construction Co.

BIG TIMBER, MONT.—D. J. Walvoord, County Surv., writes us that town contemplates building water-works. John F. Ashbury is Mayor and E. C. Hale Town Clk.

BOZEMAN, MONT.—Additional main from reservoir to city under consideration.

DILLON, MONT.—Contract for constructing city works has been let to Cusick & Jacobs, Butte, Mont., for $61,000.

LEXINGTON, MO.—A 20-year franchise has been granted Gustav Hearle, proprietor of Lexington Water-Works.

FAYETTEVILLE, ARK.—We are informed that proposed extensions of works of Fayetteville Water Co. will require 750,000 to 1,000,000-gallon pumping engine, about two miles 4, 6 and 8-in. cast-iron mains, meters, and 15 hydrants. A filter plant will also be put in. The improvements will cost about $20,000, and no definite plans have been made yet. Paul H. Easby, Fayetteville, is Des. Engr. and J. H. McIlroy, Pres., official in charge.

DALLAS, TEX.—Chas. G. Morgan, Chn. Water Comrs., has prepared a statement, showing that $125,000 would be required to give an efficient distributing system for the local works.

MANCHESTER, OKLA. T.—Erection of water tower for fire protection considered.

PERRY, OKLA. T.—Bids are asked until Aug. 18 for sinking deep well; bids to be the price per foot and are to be for a 6-in. and 8-in. well, including casing.

ADA, IND. T.—City will construct $45,000 works.

OKMULGEE, IND. T.—Burns & McDonnell, 607 Postal Telegraph Bldg., Kansas City, Mo., have been engaged to make surveys, plans and specifications for water-works for this place.

VINITA, IND.—Plans and specifications for water-works for this place are to be made by Burns & McDonnell, 607 Postal Telegraph Bldg., Kansas City, Mo.

ESTEY, N. MEX.—D. M. Estey, Mgr. Estey Mining & Milling Co., has been seeking water supply at this place.

ALAMOGORDO, N. MEX.—Artesian test well proposed.

LA VETA, COLO.—Contract for municipal works let to Mitchell Engineering & Building Co., Denver, Colo., for $17,000.

STERLING, COLO.—J. E. Hurd, Pueblo, Colo., has been awarded contract for town water-works.

WALSENBURG, COLO.—H. M. Setter, Cy. Clk., writes that proposed new municipal works are to consist of a direct gravity system, 12 miles of pipes, 1,000,000-gallon cement reservoir, 40 hydrants, etc. T. L. Darby, Denver, Colo., is Des. Engr.

ELLENSBURG, WASH.—We are informed that bids are to be opened Aug. 20 for five miles of flumes, 2,350,000 ft. B. M. lumber, 2,000 yds. rock excavation, 9,600 yds. tunnel excavation, 220,000 yds. earth excavation and 30,000 yds. cement gravel. J. E. Frost, Mgr. Cascade Canal Co., official in charge.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

SANTA FE, N. MEX.—Reported that J. M. Sandoval, Sandoval, N. Mex., and the Jaritos Ditch & Reservoir Co. will erect storage reservoirs for irrigation purposes.

DAVENPORT, WASH.—Contract for constructing two miles of water mains let to Davenport Electric Light Co., for $6,820.

OLYMPIA, WASH.—The City Water Co. is said to contemplate improvement of their water supply.

ANGELICA, CAL.—City may have to move its chief supply main, at a cost of $20,000.

FORTUNA, CAL.—Village works proposed.

OCEANSIDE, CAL.—Contract for wood pipe has been let to National Wood Pipe Co., San Francisco, Cal., at $10,380 for furnishing and laying 1,050 ft. 8-in., 3,350 ft. 10-in., and for furnishing 11,000 ft. 4-in. pipe.

ORANGE, CAL.—Ranson Reid, Cy. Engr., Santa Ana, has estimated cost of Orange City Water Co.'s improvements at $14,625.

PALO ALTO, CAL.—Contract for water system extension in west side of town let to Crane Co., at $3,942 for material, and to H. G. Sutton, at $1,073 for laying pipes, etc.

SAN PEDRO, CAL.—Municipal works discussed.

SANTA ROSA, CAL.—The following bids were received for a 2,500,000-gallon pump for city: Risdon Iron & Locomotive Works, $9,500; The Barr Pumping Engine Co., $22,000; Snow Steam Pump Works, $29,203; Lyron Jackson Machine Works, $11,500; Holly Manufacturing Co., $16,375; Stillwell-Bierce & Smith-Vaile Co., $5,285.

YUBA CITY, CAL.—Yuba City Water Co. will lay 6-in. mains in principal streets, replacing the present 4-in. pipes.

MT. PLEASANT, UTAH.—Contract for preliminary work on water system has been let, as follows: Excavating for settling tank and flume, Elisha Brandon; settling plant, Niels Matson and Geo. Ryland; wooden pipe, Intermountain Pipe Co., Salt Lake City, Utah.

HARLEY, IDAHO.—Private company is asking franchise for supplying town with water.

SUMMIT, IDAHO.—City will construct works.

WEISER, IDAHO.—Bids are reported asked by the Directors Weiser Irrigation District until Aug. 25 for enlargement of main canal and building necessary structures connected therewith, including low dam, canal, headgate, water gates, flumes, bridges and lateral gates. O. M. Harvey, Secy.

SHEDIAC, N. B., CAN.—Contract for village works let to Maritime Contracting Co., Charlottetown, P. E. I., for $7,900.

WINNIPEG, CAN.—We are informed that bids are asked until Aug. 17 for 120,000 lbs. lead pipe, brass goods, etc. C. A. Brown is Cy. Clk.

VANCOUVER, B. C., CAN.—City engineer estimates cost of extending water main to east end of city at $10,000.

KINGSVILLE, ONT., CAN.—W. A. Smith, Town Clk., writes us that town desires to get in communication with engineers, and are open for suggestions, plans, estimates, etc., for best method of extending water supply intake 1,500 ft. into Lake Erie.

SOUTHAMPTON, ONT., CAN.—Proposed to extend works at cost of $5,000.

WINDSOR, ONT., CAN.—Bids are asked until Aug. 12 for horizontal cross condensed high duty crank and fly wheel condensing pumping engine, 5,000,000 gallons capacity against 50 lbs. per sq. in. domestic pressure or 110 lbs. fire pressure. James Dixon, Chn. Water Comrs.

BONDS.—Manasquan, N. J., by Willis A. Mount, Borough Clk., will receive bids until Aug. 25 for $35,000 water-works bonds, as stated in our advertising columns. ——Wilson, N. C., by Doane Herring, Mayor, will receive bids until Aug. 31 for $40,000 water, sewerage and street improvement bonds.——Antioch, Cal., will receive bids Aug. 10 for sale of water and sewer bonds.——Whittier, Cal., may issue $15,000 water-works bonds.——Ogden, Utah, voted July 30 on $339,000 bond issue for purchase of works of Ogden Water Co. W. J. Critchlow is Cy. Recdr. ——Caldwell, Idaho, will receive bids until Sept. 12 for $42,500 water bonds.——Geneva, Ala., votes Aug. 10 on issue $17,000 municipal water bonds and $5,000 sewer bonds.——Winston-Salem, N. C., votes Aug. 31 on $100,000 bond issue for water-works, streets and sewers.——Pleasant City, O., voted July 30 on $6,500 bond issue for water-works.——Bad Axe, Mich., will issue $15,000 of bonds for increasing water-works and electric light plant. ——Oakdale, Neb., votes Aug. 18 on $7,000 bond issue for works.——Springfield, Neb., votes to issue $8,000 of bonds for works.——Cody, Wyo., by L. L. Newton, Town Clk., will receive bids until Aug. 15 for $500,000 bond issue for water plant and $100,000 bond issue for light plant.——Hotchkiss, Colo., votes to issue $35,000 of bonds for building works.——Merced, Cal., may vote Aug. 11 on $65,000 bond issue for water-works and $16,000 bond issue for electric light system.

NEW COMPANIES.—Citizens' Improvement Co., Porterville, Cal.; T. L. Price, H. C. Carr, W. E. Sprott; $50,000; to erect water-works, water plant, etc.——Frisco Water-Works Co., of Frisco, Tex.; $4,000; R. F. Wiggins, I. S. Rogers, M. J. Carter.——City Water Co., Chillicothe, Mo.; $175,000.

SEWERAGE.

CLAREMONT, N. H.—Jas. S. Rice, Supt. W.-W., writes that plans are being made for a sewer system by E. Worthington, Dedham, Mass.

BROCKTON, MASS.—Sewers have been ordered in Nilsson and East Nilsson Sts.

CLINTON, MASS.—The constructing of brick drains in Church, High and Ring Sts. is being discussed.

LOWELL, MASS.—Sewer committee has voted to construct sewers in Clitherne St., at cost of $1,470, and in New Moody and Crawford Sts. and 6th Ave., at cost of $6,500.

MARLBORO, MASS.—Preparations are nearly completed for the construction of the auxiliary sewer system.

SALEM, MASS.—City has filed plans with State Health Board for sewer system. Plans call for intercepting sewer, trunk sewer and main outfall sewer, with pumping station at Cat Cove.

GREENWICH, CONN.—Bids open Aug. 14 for 1,500 ft. pipe sewer. See Proposal, advertising columns, or Streets and Roads.

ALBANY, N. Y.—Bids are asked until Aug. 18 for sewage disposal plant and water supply system at N. Y. State Hospital for Tuberculosis, Raybrook, N. Y. G. L. Heine, State Audtr. (See advertising columns.)

DANVILLE, N. Y.—Knight & Hopkins, Rome, N. Y., are making survey for sewerage for this place.

FULTON, N. Y.—Reported that action will be taken shortly for sewer system for West Side.

GOUVERNEUR, N. Y.—The question of better sewer facilities is being discussed; est. cost, $4,500. President Orvis is interested.

PEEKSKILL, N. Y.—Plans and specifications have been accepted for a surface-water sewer in South St. Bids will soon be asked.

PENN YANN, N. Y.—Bids are asked until Aug. 25 for constructing system of sewers, consisting of 13 miles pipe, sewers and treatment works, etc. Knight & Hopkins, Rome, N. Y., Engrs.; Wm. Holloway, Pres. Comrs. (See advertising columns.)

ROCHESTER, N. Y.—Commissioner Neville has informed the council that a sewer must be constructed in Lorenzis St.

SKANEATELES, N. Y.—Sewer system to be installed. Syracuse will pay $20,000 of the cost.

WESTFIELD, N. Y.—Village may have sewerage.

ATLANTIC, N. J.—A wooden conduit, one-half-mile long, will be laid in Baltic Ave.; est. cost, $2,500.

CAMDEN, N. J.—Sewers will be constructed in Howell, Winslow and Line Sts. and Chelton Ave. L. Mohrman is St. Comr.

NEWARK, N. J.—The following are the lowest bids received for constructing three sewers: Avenue C and Miller St. sewer, John F. Murray, $1,428; Washington and Bleecker St., Headley & Christie, $1,728; Hunterdon St., with branches, Headley & Christie, $10,523.

WEEHAWKEN, N. J.—Cost of joint Weehawken and West Hoboken relief trunk sewer is estimated at $56,000.

RARITAN, N. J.—A 12-in. pipe sewer will be constructed in Raritan Ave., with the necessary Y branches, manholes, flush tanks, basins, covers, etc.

BETHLEHEM, PA.—An election will be held Aug. 18 to decide upon increasing the borough indebtedness $100,000 for the construction of surface water sewers.

COATESVILLE, PA.—Bids are asked until Aug. 10 for constructing 4,000 ft. 18-in. D. S. terra cotta sewer, 150 ft. 18-in. D. S. terra cotta sewer in concrete, 850 ft. cast or wrought-iron sewer, etc; manholes, interceptor. H. G. Book, Engr.; Robert Yochum, Chn. Sanitary Com. (See advertising columns.)

HARRISBURG, PA.—City Engineer Cowden has recommended the construction of sewers.

HAZLETON, PA.—Contract for Chestnut St. sewer let to Arlo Ruth for $2,570.

INDIANA, PA.—Contract for laying mains for new sewer system let to John Hermann, Latrobe, Pa., for $22,962.

PHILADELPHIA, PA.—A large twin sewer may be constructed, which will run parallel with the Delaware and Schuylkill Rivers. Peter E. Costello is Dir. Pub. Wks.

STEELTON, PA.—Borough has rejected bid of Geo. B. Stucker, Harrisburg, Pa., of $21,500 for laying sewer and water mains, and may do the work itself.

STROUDSBURG, PA.—Shoemaker & Grossart, Allentown, Pa., at about $26,000, were low bidders for building combined sanitary and storm sewers.

ANNAPOLIS, MD.—An extension to the sewer system may be made.

BALTIMORE, MD.—The question of completing the sewer in Carroll Park is being agitated; est. cost, $30,000 to $35,000.

FREDERICK, MD.—C. E. Ehrhart, Hanover, Pa.; Thos. H. Haller, Frederick, are seeking franchise for sewer system in this city.

HENDERSON, N. C.—J. E. Ludlow, C. E., Winston, N. C., will make surveys for proposed sewerage in this place.

NEWBERRY, S. C.—Engineer Beddoes' estimate for completing the sewer system is $3,000.

DEMOPOLIS, ALA.—Reported that city, Mayor Ely, will receive bids until Aug. 15 for sewer system, for which $25,000 is available.

NEW ORLEANS, LA.—Geo. G. Earl, Supt. Sewers, has reported that improved drainage facilities could be given the area between the Navigation canals and Broad St., for $438,000, divided up as follows: Cleaning of the Orleans relief canal, $20,000; covered and lined canal on Hagan Ave., $93,000; covered and lined canal on Carrollton Ave., $125,000; covered and lined canal on Broad St. $200,000.

WEST POINT, MISS.—We are informed that contract for survey of proposed $25,000 sewer system has not been closed. Mayor B. Y. Rhodes is official in charge.

NASHVILLE, TENN.—Contract will soon be awarded for constructing a 15 and 18-in. sewer between Demonbreun Sts.

CAMPTON, KY.—The city council has had the city surveyed and will establish a sewerage system.

CINCINNATI, O.—City engineer has been directed to make plans for sewering Pearl St., between Eggleston Ave. and Martin St., and Martin St., from Pearl to Parsons Sts.; also for sewering Clifton Ave., between McMillan St. and Ludlow Ave.

COLUMBUS, O.—Council adopted a resolution providing for the erection of a sewage pumping station near Kelton Ave., to divert the flow of sewage from Alum Creek to the Scioto River.

GENEVA, O.—Baldwin Bros. & Graham received contract for constructing the sewer disposal works and sewer system at $11,500.

MONTPELIER, O.—Bids are asked until Aug. 13 for constructing combined sewer system for North and Cranberry Run Districts. Plans call for 54 and 48-in. brick or concrete sewer, and 4, 6, 10, 12, 15, 18 and 20-in. vitrified pipe sewers. James A. Weaver, Village Clk.

OXFORD, O.—E. F. Layman, civil and sanitary engineer, 32 E. 32d St., Cincinnati, O., has been engaged to make plans and estimates for a system of sanitary sewers with a purification plant at this place.

SPRINGFIELD, O.—A petition has been presented for constructing a sewer in Lagonda Ave.

WADSWORTH, O.—Paul Bros., 147 S. Howard St., Akron, O., are making surveys for sewerage for this place.

WAPAKONETA, O.—Bids are asked until Aug. 10 for constructing local sewer in Bellefontaine St.; work consists of 1,395 ft. 12-in., 44 ft. 10-in., and 608 ft. 6-in. sewer pipe, tees, stoppers, two catch-basins and five manholes. Chas. E. Fisher, Cy. Clk.

BRAZIL, IND.—Sanitary sewerage to be constructed.

RUSHVILLE, IND.—A. L. Stewart, Cy. Engr., has completed plans and specifications for the proposed city sewer system. It will cost about $60,000 and will consist of 450 ft. 48-in. 1,150 ft. 42-in., and 900 ft. 36-in. brick sewer; 1,675 ft. egg-shaped sewer; 900 ft. 36-in., 3,475 ft. 24-in., 420 ft. 20-in., 4,000 ft. 18-in., 5,980 ft. 15-in., 3,080 ft. 12-in., 8,725 ft. 10-in., 19,080 ft. 8-in., and 12,425 ft. 6-in. sewer pipe; 1,050 ft. open sewer. There will be 74 main holes for the sanitary sewers, and 12 for the storm sewers; also 10 catch-basins, 12 lampholes, 10 deep-cut house connections, 9 flush tanks, 45 cu. yds. of outlet masonry and 11 storm inlets.

TERRE HAUTE, IND.—The city engineer will prepare plans and specifications for a pipe sewer in North Sixth St.——Bids have been rejected for the sewer in North Center St.

EATON RAPIDS, MICH.—W. S. Shields, Consult. Engr., 1715 Marquette Bldg., Chicago, Ill., has made plans for complete sewer system for this place. A small amount of sewers may be built at once.

LEROY, ILL.—$25,000 sewer system contemplated. T W. Vanata is Mayor.

CENTRALIA, ILL.—We are informed that this city will let contract about Sept. 1 for 10 miles sanitary sewers. Iowa Engineering Co., Weston Block, Clinton, Ia., are Engrs.

EAST ST. LOUIS, ILL.—City contemplates construction brick 10-ft. main sewers from Baugh Ave. to the river.

GALESBURG, ILL.—Complete sewer system for city contemplated. Frank Connolly is Cy. Engr.

ROCK ISLAND, ILL.—Wallace Treichler, Cy. Engr., writes us that bids are asked until Aug. 10 for constructing brick sewers in 17th St.; est. cost, $21,600.

SOMONAUK, ILL.—Bids are asked until Aug. 14 for laying about 4,350 ft. 24-in. sewer pipe. J. T. Holmquist, Village Clk. (See advertising columns.)

ST. CHARLES, ILL.—W. S. Shields, Consult. Engr., 1715 Marquette Bldg., Chicago, Ill., is designing sewage purification plant for Boys' Home at St. Charles.

WAUKEGAN, ILL.—Contract for sanitary sewerage, consisting of five miles 6 to 18-in. pipe, 168 manholes and 20 flush tanks for the South Side has been let to C. T. Bartlett, Evanston, Ill., for $24,206.

CLINTON, IA.—City Engineer Chase has prepared plans for the construction of sewers.

KNOXVILLE, IA.—Sewer system being discussed.

OTTUMWA, IA.—Bids are asked until Aug. 17 for constructing 1,800 ft. 30-in and 350 ft. 15-in. clay pipe sewer; also 280 ft. double-strength pipe sewer. B. F. Keyhoe, Chn. St. Com.

ST. PAUL, MINN.—Following bids were received, neither being accepted, for sewer in East 5th St.; city engineer's estimate, $8,904; P. H. Thornton, $11,135; Patrick Doherty, $12,300.

ST. PAUL, MINN.—Sewage disposal being discussed. City Engineer Rundlett is interested.——The sum of $5,000 has been appropriated to carry on the work of extending the Stryker Ave. sewer system.

WINONA, MINN.—We are informed that bids will be opened Aug. 17 for extending sanitary sewers. G. P. Coleman, Cy. Engr.

HUTCHINSON, KAN.—Sewerage extension agitated.

NORFOLK, NEB.—Sewer system being discussed.

YANKTON, S. D.—A sewer will be constructed in the alley between Douglas Ave. and Capitol St.

MILLER, S. D.—A 12-15-in. sewer will be constructed in the alley west of Main St.; est. cost, $2,000.

VENICE, MO.—$30,000 sewer bonds may be issued.

MACON, MO.—Bids are asked until Aug. 17 for constructing 812 ft. 12-in. and 438 ft. 10-in. sewer pipe, and 338 junctions; average cut 7 ft. Chas. L. Farrar, Cy. Clk.

FULTON, MO.—Chas. K. Allen, Kansas City Water-Works Dept., has estimated the cost of constructing a sanitary sewer system at $22,064. Approximate quantities: 44,450 ft. 6-18-in. pipe, 10 flush traps, 40 manholes, Y branches and connections, 72 bbls. cement.

LITTLE ROCK, ARK.—The Pulaski Heights Improvement Co. is preparing to construct a 6,300-ft. sewer in Pulaski Heights, and the profile is now being drawn by Architect Gibb. It will drain all the territory of the Heights, and will connect with the state or insane asylum sewer at Fifth and Martin Sts.; est. cost, $5,000.

PINE BLUFF, ARK.—A new sewer district, No. 4, may be established.

AUSTIN, TEX.—Reports state that plans and specifications have been completed for the storm sewers.

DALLAS, TEX.—The extension of sewers is being urged.

EL PASO, TEX.—Bids are asked until Aug. 20 for improvement of sewerage at Fort Bliss, Tex. J. L. Clem, D. Q. M. G. U. S. A. C. Q. M.

STREETS AND ROADS.

CONCORD, N. H.—The contract for building road from Mountain House to Fabyans has been awarded to Jos. Ross & Sons, Boston, at $17,000.

MILFORD, N. H.—City Engineer Junkins is making a survey for the macadamizing of South St.

WEST DERRY, N. H.—B. D. Pierce, Jr., Co. will macadamize W. Broadway, from Boston & Maine tracks to Memorial corner.

ST. ALBANS, VT.—E. F. Moore, Burlington, has secured contract S. Main St.

BOSTON, MASS.—The mayor has signed the order for the widening of Dorchester St., which will cost $365,000. ——The councilmen have declined to pass order for $457,000 for street improvement.

FALL RIVER, MASS.—Supt. Thurston has received orders for the paving of Danforth St., from Walnut to Locust St.

LENOX, MASS.—Repairing of the depot road at a cost of $30,000 is under discussion.

WAKEFIELD, MASS.—It has been decided to macadamize Main St.

PAWTUCKET, R. I.—Geo. A. Carpenter, Cy. Engr., writes us that the appropriation for improving Woodlawn, Patterson and Warren Aves. has passed one branch of city council.

CANAAN, CONN.—Plans for constructing 3,900 ft. of gravel road at a cost of $4,000 have been completed.

GREENWICH, CONN.—Bids are asked until Aug. 14 for about 3,700 sq. yds. of brick pavement and 1,500 lin. ft. of pipe sewers. S. E. Minor, Boro. Clk. (See advertising columns.)

GRISWOLD, CONN.—This town and Old Saybrook have voted to expend $9,000 each on their highways.

WATERBURY, CONN.—Jas. H. Macdonald, State Highway Comr., is planning for the macadamizing of Middlebury Road.

BUFFALO, N. Y.—Bids will be received until Aug. 13 for macadamizing Parkside Ave., from Amherst St. to the track of N. Y. Central. Francis G. Ward, Comr.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

CANANDAIGUA, N. Y.—Bids are asked until Aug. 18 for about 60,000 sq. yds. of paving; also for sewers in Parrish, Main and Bristol Sts. Le Grand Brown, Village Engr.; C. J. Andrews, Village Pres. (See advertising columns.)

COOPERSTOWN, N. Y.—Jos. Walker, of Mariner's Harbor, has received contract for three pieces of road in Broome Co. Bids were: $15,850, $19,433 and $17,495, respectively.

CORTLAND, N. Y.—The two bids for macadamizing Port Watson St. were both rejected. The engineers' estimate is $23,240.

GLENS FALLS, N. Y.—Geo. P. Slade, C. E., writes us that the paving question is still undecided.

NEW YORK, N. Y.—The contract for the construction of the second section of Riverside Drive has been let to Ryan & Parker, at $1,500,000.

SYRACUSE, N. Y.—The following bids were received for the paving of Canal St.: F. J. Baker, $18,066; Central City Paving Co., $14,820; Hurd, Sherman & Co., $17,875, and J. W. Cronin, informal.

VICTOR, N. Y.—The following bids were received for the paving of Washington St., from Neil to Lynn: John W. Stipes, $13,075 for Danville brick and $12,968 for Clinton brick; Thompson & Case, $12,338 for Danville brick and $14,268 for Clinton. No award was made.

GLOUCESTER, N. J.—Supt. Keiser estimates that 150 blocks of sidewalk is needed in new district; cost, $80,000.

NEW BRUNSWICK, N. J.—Bids are asked until Sept. 2 for constructing stone and gravel roads, as described in our advertising columns. Asbury Fountain, Dir.

SALEM, N. J.—Bids are asked until Aug. 21 for building about five miles of bitulithic pavement and about one mile of oystershell road in Lower Penn's Neck township. Josiah Miller, Engr., Salem, N. J.; Wm. J. Freas, Dir. (See advertising columns.)

TRENTON, N. J.—The paving of the east side of Main St. has been decided upon.——The contract for 11,000 ft. of curbing has been let to Wm. J. Jones.

ERIE, PA.—The bids received for paving E. 14th St. have been rejected.

MEDIA, PA.—C. M. Broomall, Boro. Engr., informs us that but four or five squares will be macadamized.

SHARON, PA.—Contracts for street paving amounting to $60,000 was let, as follows: Cochran & Parody, Mahoningtown, Shenango St., $6,635; River St., $3,631; Sharpsville, $9,458; State St., $7,174. F. Robinson, Meadville, Oakland Ave., $19,643; McIntyre & Sons, Vine St., $7,733; Pine St., $1,259; Logan Ave., $5,025.

MORGANTOWN, W. VA.—The contract for paving Third St. has ben let to F. E. Dean, at $8,000.

GADSDEN, ALA.—It has been decided that the sidewalks in business districts shall be paved with cement.

LAKE CHARLES, LA.—Bids are asked until Sept. 1 for 19,000 sq. yds. brick or asphalt paving. C. M. Bowen, Cy. Engr.; C. H. Winterhaler, Mayor. (See advertising columns.)

MEMPHIS, TENN.—Chas. R. Miller Paving Co. has contract for laying granolithic sidewalks on Union Ave.

NASHVILLE, TENN.—The paving of Woodland St. has been decided upon.

LOUISVILLE, KY.—Contracts for paving to cost $78,246 has been let to L. R. Figg, G. W. Gosnell and American Standard Asphalt Co.

ADA, O.—O. P. Wilson, C. E., Kenton, has drawn plans for the paving of Main St. and part of Buckeye St. The estimated cost is $53,000.

BOWLING GREEN, O.—Geo. E. Mercer has secured the contract for $60,000 worth of new stone roads in Wood Co.

CINCINNATI, O.—The city engineer estimates the cost of improving Mitchell Ave., from Clinton Springs Ave west, at $130,000.

DAYTON, O.—City Clerk Miller will readvertise for bids for the paving of various streets.

EAST PALESTINE, O.—Bids are asked until Aug. 17 for the paving of Market St., from Adam to lot No. 419. J. W. Knaub, Clk.

MARION, O.—Hummer & Carroll have secured the contract for building the Salem pike; cost, $16,970.

NORWALK, O.—The Bellevue Stone Co. secures contract for building two miles of pike road.

WAPAKONETA, O.—Bids will be received until August 10 for macadamizing S. Blackhoof St. Estimated quantity as follows: 4,250 cu. yds. excavation, 900 cu. yds. gravel, 900 cu. yds. crushed stone. Chas. E. Fisher, Clk.

WESTERVILLE, O.—Council decides to brick-pave State St. and College Ave., and to macadamize Main St.

YOUNGSTOWN, O.—The paving of Watt St. has been decided upon. The widening of Rose St. is still under discussion.

CROWN POINT, IND.—Bids will be received by the Commissioners of Lake County until August 20 for constructing a gravel road in Winfield township.

DECATUR, IND.—The Second St. pavement will be extended from Monroe St. north to Jackson St.

GREENCASTLE, IND.—Bids are asked until August 15 for the improvement of 18 miles of stone roads in Russell township. Thos. D. Brookshire, Comr.——Bids also reported wanted until Aug. 14 for constructing two miles of road in Warren township.

MARION, IND.—T. E. Petrie, Cy. Engr., writes us that about seven miles of brick streets and alleys will be constructed.

MUNCIE, IND.—Engineer Crandall has completed plans for the boulevard that will extend from Elm St. on the west to Broadway.

PRINCETON, IND.—The following bids were received for 38 miles of gravel road in Patoka township and 19½ miles in White River township: For Patoka roads. Henry Eigenmann, Rockport, $122,038; C. P. White, Boonville, $122,024; Reavis & Warnock, Princeton, $123,918; J. E. Hart, Varay, $122,100. White River roads: Henry Eigenmann, $54,375; C. P. White, $52,789; Reavis & Warnock, $54,400; J. E. Hart, $53,337. Contract has not been awarded.

SOUTH BEND, IND.—It has been decided to pave Vistula Ave.

BAY CITY, MICH.—The building of a boulevard between here and Saginaw is under discussion.

GRAND RAPIDS, MICH.—L. W. Anderson, Cy. Engr., writes us that the contract for paving State St. has been let to the Interstate Construction Co.

MANISTEE, MICH.—Bids are asked until August 18 for 6,000 sq. yds. of macadam pavement, and 3,800 lin. ft. of combined curb and gutter. G. B. Pike, Cy. Engr.

CHAMPAIGN, ILL.—Thompson & Case, Peoria, were awarded the street paving contract.

HIGHLAND PARK, ILL.—The contract for macadamizing two miles of streets was awarded to James Cape & Sons at $30,000.

PEORIA, ILL.—Spring St. and Garfield Ave. are to be paved.

ROCK ISLAND, ILL.—Wallace Freichler, Cy. Engr., writes us that bids are asked until Aug. 10 for brick paving on 17th St.; est. cost, $21,600.

TAYLORVILE, ILL.—We have specifications for the 55,059 sq. yds. of brick paving and 18,913 lin. ft. of curbing to be laid in this city. The date of letting is not set as yet, but A. B. Alexander, Cy. Engr., recently advised us that the awards would be made around Sept. 10.

HARTFORD, WIS.—Bids are asked until August 8 for macadamizing Main St. A. J. Hemmy, Cy. Clk.

MINNEAPOLIS, MINN.—Ellis R. Dutton, Asst. Cy. Engr., informs us that bids will be received until August 14 for paving with asphalt 22d St. from Oakland to Columbus Ave.

WINONA, MINN.—Plans and specifications have been prepared for macadamizing 13 blocks. G. P. Coleman, Cy. Engr.

ST. PAUL, MINN.—Bids are asked until August 10 for the grading of Capitol Ave. from Avon to Grotto Sts. John S. Grode, Pres. Bd. Pub. Wks.

CHEYENNE, WYO.—Bids are asked until Aug. 28 (not Aug. 23, as stated in our issue of last week) for constructing roads and walks at Fort D. A. Russell, Wyo. Capt. W. S. Scott, Q. M. (See advertising columns.)

PINE BLUFF, ARK.—The contract for one mile of paving has been let to Zeb Ward.

DENVER, COLO.—The contract for sidewalks in East Capitol Hill has been let to Hugh Murphy at $15,432.

SEATTLE, WASH.—The council has decided to improve various streets at a cost of $36,000.——Bids for the concrete work on 31st Ave will be readvertised.

TACOMA, WASH.—Bids will soon be advertised for constructing one-half mile of macadam road on Bay St. Estimated cost is $5,000.

PASADENA, CAL.—North Raymond Ave. is to be paved, and improvement will be made on Chestnut St.

ST. JOHNS, QUE.—The ratepayers will vote on a by-law to raise $40,000 for street improvements.

MONTREAL, QUE.—The widening of St. Gabriel St. is now assured. Hon. Mr. Gouin, Minister Pub. Wks.

MANUFACTURING PLANTS.

LYNN, MASS.—The General Electric Co. is planning further extensions at the River Works plant.

CAMDEN, N. J.—The Pennsylvania R. R. Co. has asked bids for building brick and steel, 350 ft. in diameter, 40-stall roundhouse in this city.——Contract for 2-story brick, slow-burning addition to factory of Warren-Webster & Co. let to A. Raymond Raff, 1635 Thompson St., Philadelphia, Pa.

NEWARK, N. J.—The International Egg Carrier & Paper Co. will build in this city, the Newark Board of Trade having provided a site. The company will manufacture paper and egg carriers from paper pulp. Harry R. Drake, Newark, is Secy.

TRENTON, N. J.—Ballinger & Perrot, Archs., 1200 Chestnut St., Philadelphia, have asked bids for one-story brick and steel, 100 x 125 ft. foundry at this place for the Peters Engine Co.

TRENTON, N. J.—Surveys are being made preparatory to erection of the P. R. R. shops at this place; 350 houses will be erected.

BUTLER, PA.—The Bredin Gas Engine Co. will erect plant here for manufacture of gas engines. Glen Bredin is interested.

CHESTER, PA.—Contract for grading grounds for new steel plant of Boldt Steel Co., at New Castle, Del., and for grading for Brylgon Steel Co. has been let to Michael Reilly. The Boldt Co. will erect three buildings, 300 x 65 ft., to be used in making steel castings.

GREENSBURG, PA.—Contract for new plant of Star Brewing Co. let to Good & Co., plant is to cost $125,000, and will consist of five fireproof brick and steel buildings. Otto C. Wolf, 1025 Arch St., Philadelphia, has charge of power equipment.

HANOVER, PA.—Hanover Shoe Co., H. D. Sheppard, will have plans made for 4-story brick, slow-burning addition to their factory.

JOHNSTOWN, PA.—Fire is reported to have destroyed bolt and forge departments of Cambria Steel Co., and to have damaged the plate mill; loss, $300,000.

PHILADELPHIA, PA.—Furness, Evans & Co., Archs., Providence Bldg., will soon let contract for 4-story brick, slow-burning pattern shop at Washington and Lethgon Sts.——John M. Kennedy, 1001 Chestnut St., has asked bids for 2-story brick, slow-burning, 60 x 200-ft. factory in Kensington. Complete power plant will be installed.——Appleton & Burrell, 1204 Chancellor St., have contract for 3-story, brick, slow-burning, 35 x 70 ft. addition to soap factory for Robt. Hamilton & Son.——R. Tarlo & Son, 413 S. 5th St., have contract for 4-story, brick, slow burning addition to factory for Remington & Sherman.

PITTSBURG, PA.—The National Coal & Coke Co. is to be formed with $5,000,000 capital and $2,500,000 bonds to develop over 10,000 acres of coal land; 800 coke ovens will be built in the Klondike section of the Connellsville region.

PITTSBURG, PA.—The Jones & Laughlin Steel Co. have plans for erection of 500 beehive coke ovens in Hazelwood, to cost about $400,000.

WILMINGTON, DEL.—Hilles & Jones, 9th St., will soon have plans started to extensive improvements to plant of Wilmington Malleable Iron Works.

WASHINGTON, D. C.—A. P. Clark, Arch., 605 F St., N. W., will soon let contract for 2-story, brick and steel, fireproof, 75 x 100 ft. ice storage house for C. Hemick Brewing Co.

NORFOLK, VA.—The Norfolk Refrigerating Co., which is spending $200,000 in building a plant, proposes to extend its pipe lines.

POCAHONTAS, VA.—Dupont Powder Co. has purchased site in Abbs Valley and will erect powder mill.

BLUEFIELD, W. VA.—Contracts for a brewery and ice plant at this place and for an ice and cold storage plant at Ronceverte, W. Va., have been let to C. W. Hancock & Son, Lynchburg, Va.

CHARLESTON, S. C.—Contract for rebuilding Mill No. 3 at Pacolet was let to Geo. H. Cutting, Worcester, Mass., for $100,000.

CHARLOTTE, N. C.—Stated that large silk mill is to be constructed in this city.

SPARTANBURG, S. C.—$15,000 laundry plant to be put in here soon.

SPARTANBURG, S. C.—Contract for 300 x 100 ft. addition to Hartville Cotton Mill has been let to Grandy & Jordan, Greenville, S. C.

MONTEZUMA, GA.—Clyde S. Adams, 1202 Locust St., Philadelphia, Pa., has asked bids for 2-story, brick, slow burning, 50 x 150 ft. factory at Montezuma for Scott & Williams.

JACKSONVILLE, FLA.—$500,000 sugar factory to be put in by outside capitalists talked of.

GIRARD, ALA.—Stated that chemical plant is to be started here, the company having already purchased an old plant. T. C. S. Howard, Columbus, Ga., is Mgr.

HUNTSVILLE, ALA.—A new roll-covering plant is to be established here.

CLEVELAND, O.—Cleveland City Forge & Iron Co. will erect two new buildings on Case Ave. at cost of $20,000.

CLEVELAND, O.—Stated that Wyman & Gordan, Worcester, Mass., manufacturers of drop forges, will fit up building on Wason St. for making of forges.

COLUMBUS, O.—Columbus Malleable Iron Co. will erect frame factory on Curtis Ave., at cost of $6,000.

STEUBENVILLE, O.—Plant of Wellsbury Foundry Co., recently damaged by fire to extent of $10,000, will be rebuilt.

ANDERSON, IND.—Mott & Wyatt, of this city, have contract for building bottle plant at Morgantown, W. Va.

EVANSVILLE, IND.—Evansville Cabinet Co. has site for new factory.——The Evansville Glass Co., S. P. Gillett, Pres., will call for bids for constructing $100,000 glass plant in this city.

MICHIGAN CITY, IND.—Michigan City Cold Storage Co. has let contract for its plant to Westline & Campbell for $50,000.

VINCENNES, IND.—A large rolling mill will be erected at a cost of $750,000. The company also proposes to build 100 houses. Secretary, Board of Trade, may be able to furnish information.

ST. JOSEPH, MICH.—A large automobile factory, representing investment of $1,000,000, may be erected here.

CHICAGO, ILL.—F. W. Hessenmueller, Arch., 225 Dearborn St., has made plans for a 5-story, 125 x 135 ft., mill construction factory, to be erected at a cost of $60,000 for C. C. Heisen.

DES MOINES, IA.—Iowa Brick Manufacturing Co. will rebuild plant destroyed by fire July 26 with loss of $45,000. The plant of the Barber Asphalt Paving Co., which was recently destroyed, will also be rebuilt.

BEAUMONT, TEX.—The National Refining Co. is planning extensive improvements and extensions.

BROWNWOOD, TEX.—Brownwood Oil Mill will increase capacity and make other improvements.

DUBLIN, TEX.—Dublin Cotton Oil Co. will improve its plant.

EL PASO, TEX.—Contract for brewery here let to the William Griesser Construction Co., Pittsburg, Pa.

REALITOS, TEX.—The Realitos Gin Co. will establish Cotton gin here. J. J. Allen is interested.

STEPHENSVILLE, TEX.—Stephensville Oil Mill Co. will improve plant.

LOS ANGELES, CAL.—Union Iron Works will erect new plant at Moline Ave. and Palmetto St.

MONTEREY, CAL.—F. H. Powers is interested in establishment of $20,000 brick plant at Carmel.

OAKLAND, CAL.—Goddard-Allen Co., Beloit, Wis., manufacturers of bicycles, is said to contemplate moving its plant to this city.

SAN JOSE, CAL.—Contract for constructing 50 x 100 ft. packing house for Higgins & Sterritt let to G. C. Garrett.

SANGER, CAL.—Sanger Wine Association will erect new winery and distillery to cost about $25,000. D. R. Evinger is a director.

SAN FRANCISCO, CAL.—Riley & Hock have contract to erect 5-story brick building, to cost $30,000, for National Brewing Co.

CALDWELL, IDAHO.—Construction at a cost of $80,000 of sugar beet factory in this city is being considered.

NEW WESTMINSTER, B. C.—Mill plant of Harrison River Lumber Co. destroyed by fire, with loss of $80,000. Will probably be rebuilt.

BRANTFORD, ONT.—James A. Carr, First Vice-Pres. American Seeding Machine Co., Springfield, O., writes that they have leased a plant at this place and are now putting up a new plant. They will buy some machinery, but are unable to say at present what they will need.

MISCELLANEOUS CONTRACTS.

WHARF.—San Mateo, Cal.—H. D. Cuttrell has asked franchise to erect wharf at Halfmoon Bay.

DOCK.—New York, N. Y.—Contract for new dock at Quarantine Station has been let to John D. Gillies.

DITCH.—Onawa, Ia.—S. B. Martin is a commissioner to locate a joint county ditch to drain the lowlands.

VAULT.—Oakland, Cal.—Contract for vault for Union Savings Bank has been let to Charles Waltz for about $16,200.

SUBWAY.—Green Castle, Ind.—Subway at Jackson St. may be put in, city and railroads interested paying cost of $15,000.

PIER.—Philadelphia, Pa.—The Reading Ry. Co. will erect a 150-ft. wide and 526 to 585 ft. double deck pier at foot of Noble St.

MARL.—Cadillac, Mich.—The development of the Marl deposits near this city controlled by Vosberg, Stanley & Cornwall is probable.

FIRE BOATS.—Portland, Ore.—Moran Bros., Seattle, Wash., at $56,600, were low bidders for constructing a fire boat for this city.

WHARF.—Redondo, Cal.—The Los Angeles & Redondo Ry. Co. has asked leave to build a 1,000-ft. wharf at a cost of about $25,000.

LEVEES.—Wichita, Kan.—Estimates by the city engineer show that building of levees from 13th St. to Central Ave. will cost $14,000.

WHARF.—New Haven, Conn.—The Ritter, Conly Co. will construct a 300-ft. long, 20-ft. wide wharf here for the New Haven Gas Light Co.

LEVEE.—Attica, Ind.—Contract for Wabash River levee in Fulton and Wabash townships let to Capt. J. T. Campbell, Rockville, Ind., for $9,790.

BARGES.—Memphis, Tenn.—Contracts for 12 material barges for U. S. government work let to Oscar F. Barrett, Cincinnati, O., for $3,184 each.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

GRAIN ELEVATORS.—Galveston, Tex.—Reported that Southern Pacific Terminal Co. will erect additional elevators of large capacity in this city.

TRAINING WALL.—Sacramento, Cal.—Frank D. Ryan, State Comr. Pub. Wks. has recommended a training wall for the Tisdale Weir, to cost $4,356.

TELEPHONE IMPROVEMENTS.—Norfolk, Va.—The Southern States Telephone Co. is said to be planning to extensively improve its local service.

PIPE LINE.—Bakersfield, Cal.—Jewett & Blodgett are said to be interested in construction of 12 mile pipe line through Sunset and Midway oil fields.

FERRY BOATS.—New York, N. Y.—A. Cary Smith, of Cary Smith & Barbey, 35 Nassau St., will design the city ferryboats for the Staten Island service.

LEVEE WORK.—Vicksburg, Miss.—Contract for about 480,000 yds. of government levee work for the Yazoo canal has been let to Helgason Bros. & Garbish.

DREDGING.—Seattle, Wash.—Bids are asked until Aug. 25 for dredging in Inner Gray's Harbor and reach of lower Chehalis River. Maj. John Mills, U. S. Engrs.

WEIR.—Sacramento, Cal.—Construction of weir at mouth of Butte Slough on the Sacramento River in Sutter county is proposed. M. A. Nurse is State Engr.

SEA WALL.—Annapolis, Md.—Contract for constructing sea wall for naval acadamy, Annapolis, let to Latta & Terry Co., Drexel Bldg., Philadelphia, Pa., for $141,000.

DRAINAGE CHANNEL.—Falls City, Neb.—A drainage district is to be organized to construct new channel for the Nemaha River, at a cost of about $7,000 per mile.

EXCAVATING.—San Francisco, Cal.—Bids are asked until Aug. 15 for excavating at Daguerre Point on Yuba River. Capt. R. P. Johnson, Flood Bldg., San Francisco.

LEVEE WORK.—Edwardsville, Ill.—Sheppard & Morgan have been making surveys for repairs of broken levees and for new levees projected by the levee commissioners.

AMMUNITION HOISTS.—Washington, D. C.—Bids are asked until Sept. 2 for chain ammunition hoists. Maj. Frederic V. Abbot, U. S. Engrs. (See advertising columns.)

BOILER.—Boston, Mass.—Bids are asked by Boston City Hospital Trustees until Aug. 10 for 72-in. circular horizontal return tubular boiler for power house. Geo. H. M. Rowe, Supt.

RIVER WORK.—Eureka, Cal.—Preliminary surveys are to be made for the protection of banks of Eel River. Nathaniel Ellery, Sacramento, Cal., is State Comr. Roads and Highways.

BOILER.—East Cleveland, O.—Bids are asked until Aug. 8 for 100-HP. tubular steel boiler with grate bars and atachments, to be installed at sewage disposal plant. W. H. West, Clk.

JETTY.—Washington, D. C.—Reported that contract for constructing two jetties in Southwest Pass of Mississippi River has been let to Christie & Lowe, 171 La Salle St., Chicago, Ill., for $2,175,896.

CONCRETE CONSTRUCTION.—Washington Barracks, D. C.—Bids are asked until Aug. 14 for reinforced concrete construction. Capt. John Stephen Sewell, U. S. Engrs. (See advertising columns.)

COMFORT STATION.—New York, N. Y.—Bids are asked by the Park Department, 5th Ave. and 64th St., until Aug. 13 for constructing comfort station in Morningside Park. William R. Wilcox, Comr.

HEATING PLANT.—Minneapolis, Minn.—City is calling for bids until Aug. 14 for heating and ventilating plant, either direct or fan system, for Pumping Station No. 4. Andrew Rinker is Cy. Engr.

VAULTS.—Washington, D. C.—The time for opening bids for new vaults for cash room has been changed from Aug. 5 to Aug. 17, as stated in our advertising columns. James Knox Taylor, Supervising Arch.

LIGHT-HOUSE.—Baltimore, Md.—Bids are asked until Sept. 3 for materials (except metal work) and labor for constructing Baltimore light-house. Col. W. A. Jones, U. S. Engrs. (See advertising columns.)

SUCTION DREDGE.—Philadelphia, Pa.—Bids are asked until Sept. 5 for constructing one steel, twinscrew suction dredge for Savannah Harbor, Ga. Capt. J. C. Sanford, U. S. Engrs. (See advertising columns.)

FLOATING DOCK.—Jacksonville, Fla.—We are informed that the Merrill Stevens Engineering Co., A. D. Stevens, Pres., is considering plans for a modern floating dock of about 3,500 tons lifting capacity.

TUNNEL.—San Francisco, Cal.—The Southern Pacific R. R. Co. is said to plan the cutting of a tunnel through the San Luis Obispo Mountains at a cost of about $2,000,000. W. Hood, San Francisco, is Ch. Engr.

LAND RECLAMATION.—Rio Vista, Cal.—It is stated that a syndicate proposes to spend $1,000,000 if necessary in reclaiming 100,000 acres of land in this vicinity. It is projosed to cut a canal and install pumping plants.

DITCH.—Rockville City, Ia.—Bids are asked until Aug. 16 for dredging 16 mile long ditch, 8 to 24 ft. wide and 3 to 10 ft. deep; total excavation about 500,000 yds. B. E. Stonebraker, County Auditor. (See advertising columns.)

DAMS.—Fulton, N. Y.—Contract for raising and completing Braddock dam in Oswego River, near here, to Walter Bradley Co., Oswego, N. Y., for $6,722. This company also has contracts for the High and Minetto dams.

DREDGING.—Norfolk, Va.—Following bids were received Aug. 1 for dredging Norfolk Navy Yard: Sanford & Brooks Co., Baltimore, Md., $74,700; R. G. Packard Co., New York, $97,000; Norfolk Dredging Co., Norfolk, Va., $149,500.

METAL SHELVES.—St. Paul, Minn.—Bids will be received at the office of state capitol commissioners, 512 Endicott Bldg., until August 11 for the metal shelves and cases of the new state capitol building. Channing Seabury, Vice-Pres.

PIPE GALLERIES.—New York, N. Y.—Chief Engineer Parsons of the Rapid Transit Comn. has approved plans for pipe galleries which it is proposed to build in the Broadway section of the underground railroad extension to Brooklyn.

DAM.—Ogdensburg, N. Y.—A hearing will be held here Aug. 11 on proposition to permit Canadian Government to construct dam between Adams Island, in Canada and Les Galops Island in United States. The dam would be about 300 ft. long.

MECHANICAL STOKERS.—Buffalo, N. Y.—Contracts have been recommended made with the following parties for mechanical stokers for the water-works: E. Keeler, Williamsport, Pa., boilers, $27,300; American Blower Co., Detroit, Mich., blowers, $5,292; John L. Danforth Co., Buffalo, N. Y., steam line, $10,700; McKenzie Furnace Co., Chicago, Ill., stokers, $14,500; Chain Cable Engineering Co., Boston, Mass., conveyors, $32,650.

DREDGING.—New York, N. Y.—Bids are asked by the Dock Commissioner, Battery Pl., until Aug. 10 for dredging on North River, between W. 13th and 15th Sts., Bloomfield and Little W. 12th Sts., and betwen W. 15th and 16th Sts., and at W. 18th St. McDougal Hawkes, Comr.

DREDGING.—Ithaca, Mich.—E. W. Redman, County Surveyor, writes that county drain commissioners will let a contract Aug. 26 for dredging about eight miles of Maple River. The river is to be dredged to a bottom width of 60 ft. and most of the work is through an open marsh.

EXCAVATION.—Memphis, Tenn.—Bids will be received at office Middlesex Banking Co., Memphis, Sept. 1 for the following excavation work: Canal, Linden plantation, Washington county, 30,000 cu. yds.; canal, Pettit Plantation, 15,000 cu. yds.; canal, Trinidad Plantation, Madison Parrish, La., 60,000 cu. yds.

FLOOD PROTECTION.—East St. Louis, Ill.—E. G. Helm, Cy. Engr., has submitted plans calling for an expenditure of about $500,000 for protecting the city from flood waters of Mississippi River. The plans call for the raising of the railroad tracks about the city and changing the course of Cahokia Creek. Silas Cook is Mayor.

TUNNEL.—Indianapolis, Ind.—Surveys are about completed for proposed tunnel in northern part of Monroe county of the Indianapolis & Martinsville Electric Railway extension from Martinsville to Bloomington. The tunnel will be about 1,500 ft. long, through sandstone, and will cost about $75,000. Chas. Finley Smith is Pres., Martinsville line.

MINING.—The Goldern Chest Co. is considering sale of Goldern Chest mine at Murray, Idaho. It is said the new company purposes to spend $100,000 in improvements, which includes erection of new 50-stamp mill and complete cyanide plant.——C. N. Thomas contemplates installing a 100-stamp mill and cyanide plant at Cerro Prieto mine, Sonora, Tex.——The George A. Treadwell Mining Co. will install 50-ton concentrating plant at its Big Bug, Ariz., holdings.——An air compressor, tramway and concentrator will probably be put in at the Sunset mine, Index, Wash.——Surveys have been under way for two 4,000-ft. tunnels at the Snow Bird Co.'s mines, Marysville, Cal.——American Rare Metal Co., New York, N. Y., has purchased site on which to erect smelter at Kingston, Ont., Can.——The Russman & Gray Malybelenum Reduction & Refining Co., Buffalo, N. Y., may open up mines and erect $130,000 smelter at Kingston.——The Round Valley Co mines, Greenville, Cal., is to be equipped with a 40-ton cyanide plant.——The El Dorado Gold & Copper Mining Co., Georgetown, Cal., will soon put in a steam hoisting plant.——G. W. Wood, Ellsworth, Nev., Mgr. Pirate Mining Co., will build mill for the company's mine at an early date.——S. H. Smith, R. R. Frankford, and associates, San Jose, Cal., will put in new retorts and modern equipment at the Elgin quicksilver mines in Colusa County.——It is proposed to increase capacity of the mill of the Dean Mine, Battle Mountain, Nev.——C. B. Lawley, of the Cloverdale quicksilver mine, Cloverdale, Cal., proposes to erect 40-ton furnace.——Reported that the Comanche Mining & Milling Co. will erect smelter at Silver City, N. Mex.—Stated that the Copper Plate mines, Clifton, Ariz., are to be equipped with compressor and drills. Ambrose Pierce said to be interested.——Reported that the Arizona Copper Butte Mining Co., Thomas W. James, Spokane, Wash., Consult. Engr., will erect 1,000-ton smelters.——Las Animosa Gold & Copper Co., Hillsboro, N. Mex., will establish 50-ton mill.——Portage Lake & Bisbee Mining Co., John Funkey, Supt., Bisbee, Ariz., will install additional machinery.

CONTRACT PRICES.

[Where (*) precedes items under Contract Prices the work was advertised in Engineering News.]

*WATER WORKS.—Warwick, N. Y.—Fred. J. Knight, Engr., Monroe, N. Y., informs us that the following bids were received July 30, 1903, for furnishing material and constructing water-works; in pipe laying the trench will be about 5 ft. deep, 5,400 ft. through fields and the remainder through streets: (1) Reading Foundry Co., Reading, Pa. (2) Warren Foundry & Machine Co., 100 Broadway, New York; (3) U. S. Cast-Iron Pipe & Foundry Co.; (4) M. J. Drummond & Co., 192 Broadway, New York; (5) Kennedy Valve Co.; (6) Eddy Valve Co., Waterford; (7) Schoonmaker & Grossert, Allentown, Pa.; (8) Richards & Fritz, Dover, N. J.; (9) N. J. Construction & Supply Co., Passaic, N. J.; (10) Herbert E. Dalliard, East Bangor, Pa.:

Cast-Iron pipe:		1.	2.	3.	4.
10, 12 & 14-in.	456 tons	$29.00	$30.00	$30.90	$29.50
8 and 6-in.	26 "	29.00	30.00	31.90	30.50
4-in.	2 "	29.00	30.00	31.90	31.50
Special castings	10 "	57.00	55.00	55.00	55.00
Total		$14,608	$15,072	$15,536	$14,860

			4.	5.	6.
Hydrants: 6-in., 3-nozzle	5	each	$30.00	$34.70	$26.25
6-in., 2-nozzle	8	"	24.00	28.90	24.15
4-in., 2-nozzle	2	"	23.30	28.90	23.80
Valves: 14-in.	1	"	48.00	45.00	51.40
12-in.	3	"	33.25	30.00	34.00
10-in.	4	"	22.00	22.00	23.40
8-in.	3	"	15.50	14.95	18.00
6-in.	18	"	10.50	8.90	11.50
4-in.	14	"	6.50	5.50	8.00
Extension valve boxes	43	"	3.25	2.85	3.75
Total			$1,091	$1,090	$1,153

Pipe laying:			7.	8.	9.	10.
14-in. pipe	5,000	lin. ft.	$0.42	$0.44	$0.595	$0.69
12-in. "	2,300	" "	.38	.39	.49	.57
10-in. "	2,950	" "	.35	.37	.46	.51
8-in. "	750	" "	.28	.34	.41	.41
6-in. "	500	" "	.22	.28	.37	.37
4-in. "	300	" "	.18	.25	.34	.29
Setting:						
6-in. hyd'nts	13	each	2.97	5.00	5.00	9.00
4-in. hydr'nts	2	"	2.80	5.00	5.00	7.50
Valves & boxes						
14-in.	1	"	1.20	4.00	6.00	5.00
12-in.	3	"	1.00	3.00	6.00	4.00
10-in.	4	"	.90	2.50	4.50	3.50
8-in.	3	"	.80	2.50	4.00	3.00
6-in.	18	"	.65	2.00	3.00	* 2.50
4-in.	14	"	.50	1.50	2.75	2.00
Miscellaneous work			351.70	271.00	488.00	342.00
Total			$5,057	$5,356	$7,120	$7,846

DREDGING.—Whatcom, Wash.—The bids for dredging in Whatcom harbor received by the U. S. Engineer Officer on July 22, 1903, were as follows: Seattle Bridge Co., 13 cts. per cu. yd.; Puget Sound Bridge Co., Seattle, 19.9 cts.; R. A. Perry, San Francisco, 20.2 cts. The channel to be cut will be 3,300 ft. long and 50 ft. wide.

SEWERAGE.—Waukegan, Ill.—R. J. Smith, Supt. Pub. Wks., received the following bids July 17 for constructing sewer district No. 2; the 80 ft. on McKinley Ave. is for cast-iron pipe; contract awarded to Chas. T. Bartlett:

Bids Received at Waukegan, Ill., July 17, 1903, for Constructing Sewers in District No. 2.

Sewers.	Approximate length.	Internal diameter.	Average depth.	Chas. T. Bartlett, Evanston, Ill.	Reichert Const'n Co., Racine, Wis.	Allen & Bairstow, Waukegan, Ill.	Wm. H. Harris, Terre Haute, Ind.	P. B. Johnson, Racine, Wis.	Municipal E. & C. Co., Chicago, Ill.	Morrison, Sloan & Co., Chicago, Ill.	James H. Roche, Chicago, Ill.
McKinley Ave	590 ft.	18 ins.	8.4 ft.	$1.40	$2.00	$1.50	$1.20	$2.50	$1.58	$1.07	$1.40
" "	280 "	12 "	6.8 "	.85	.90	1.10	.75	.90	.96	.87	1.05
" "	80 "	10 "	6.9 "	2.50	2.00	2.00	2.00	.80	2.40	1.62	2.00
" "	877 "	8 "	7.6 "	.50	.45	.50	.45	.50	.56	.67	.75
Market St.	1,190 "	15 "	9.9 "	.90	1.00	1.25	1.20	1.50	1.15	1.44	1.60
" "	1,331 "	8 "	9.4 "	.60	.45	.70	.75	.60	.79	.83	.90
" "	736 "	6 "	5.6 "	.35	.35	.43	.30	.40	.38	.37	.50
" "	200 "	6 "	6.4 "	.39	.35	.48	.35	.50	.38	.44	.50
Sheridan Road	1,326 "	12 "	9.7 "	.75	.90	.80	.80	1.00	.79	1.00	1.35
" "	200 "	8 "	8.6 "	.55	.45	.60	.55	.60	.58	.80	.80
" "	159 "	6 "	8.8 "	.55	.35	.50	.50	.50	.48	.62	.60
Prospct Dr & Crt Pl	435 "	6 "	8.9 "	.55	.35	.50	.50	.50	.56	.62	.60
Lake St.	881 "	10 "	14.5 "	1.20	.80	1.35	1.25	1.25	.74	1.43	1.75
" "	328 "	8 "	6.9 "	.43	.45	.50	.40	.60	.53	.56	.75
" "	330 "	6 "	9.4 "	.60	.35	.50	.60	.50	.69	.56	.65
Piccadilly Court	220 "	6 "	7.2 "	.41	.35	.45	.40	.40	.62	.50	.60
So. Genesee St.	560 "	8 "	12.3 "	.71	.45	1.00	.85	1.00	.64	1.00	1.25
So. County St.	390 "	6 "	8.7 "	.46	.35	.50	.50	.50	.44	.68	.60
South Utica St.	492 "	8 "	6.4 "	.45	.45	.50	.40	.50	.53	.56	.75
South West St.	600 "	6 "	8.2 "	.55	.35	.50	.50	.50	.44	.68	.60
Belvidere St.	656 "	10 "	8.2 "	.65	.80	.60	.65	.70	.63	.75	.90
" "	332 "	8 "	7.3 "	.45	.45	.50	.45	.60	.53	.68	.75
" "	456 "	8 "	8.2 "	.55	.45	.55	.55	.40	.64	.75	.80
" "	160 "	6 "	6.2 "	.35	.35	.42	.35	.40	.38	.38	.50
South Ave.	842 "	12 "	10.2 "	.90	.90	1.05	1.00	1.25	.91	1.00	1.25
" "	688 "	8 "	8.5 "	.55	.45	.55	.55	.50	.52	.75	.85
" "	428 "	6 "	8.1 "	.40	.35	.42	.50	.50	.45	.62	.60
Marion St.	1,110 "	12 "	15.4 "	1.20	.90	1.10	1.80	1.50	.91	1.87	2.00
" "	441 "	12 "	9.4 "	.73	.90	.82	.80	1.00	.80	1.00	1.25
" "	846 "	6 "	7.5 "	.45	.35	.42	.40	.60	.44	.44	.55
" "	1,109 "	6 "	8.2 "	.52	.35	.47	.50	.50	.44	.62	.60
Oak St.	1,127 "	8 "	7.9 "	.50	.45	.52	.45	.60	.51	.62	.75
Oak St.	929 "	6 "	7.5 "	.45	.35	.42	.40	.40	.40	.56	.55
Ravine Ave.	631 "	6 "	8.0 "	.45	.35	.45	.40	.40	.42	.60	.55
South Utica St.	725 "	8 "	8.1 "	.50	.45	.50	.55	.50	.51	.66	.75
" " "	448 "	8 "	7.4 "	.48	.45	.50	.45	.50	.53	.62	.75
" " "	405 "	6 "	8.3 "	.44	.35	.45	.50	.40	.45	.62	.60
" " "	326 "	6 "	7.2 "	.42	.35	.42	.40	.40	.41	.55	.55
" " "	304 "	6 "	7.9 "	.45	.35	.45	.40	.40	.41	.55	.60
Liberty St.	150 "	6 "	8.2 "	.45	.35	.45	.50	.40	.41	.62	.60
George Ave.	510 "	6 "	8.6 "	.48	.35	.45	.50	.40	.41	.62	.65
Browning Ave	623 "	8 "	7.3 "	.45	.45	.50	.45	.50	.47	.62	.75
Clinton St.	365 "	6 "	4.0 "	.30	.35	.35	.40	.40	.36	.30	.50
Kennard St.	435 "	6 "	6.2 "	.35	.35	.40	.35	.40	.36	.40	.50
Helmholz Ave.	458 "	6 "	7.8 "	.45	.35	.42	.40	.40	.39	.50	.60
Helmholz Ave. outlet	476 "	6 "	7.6 "	.44	.35	.42	.40	.40	.39	.50	.60
Lenox Ave.	564 "	6 "	7.3 "	.40	.35	.42	.40	.50	.39	.50	.60
May St.	355 "	8 "	8.8 "	.63	.45	.50	.55	.50	.52	.68	.80
McAllister Ave.	1,046 "	8 "	7.8 "	.50	.45	.50	.45	.50	.52	.62	.75
McAllister Ave	433 "	8 "	8.4 "	.55	.45	.50	.55	.50	.52	.62	.80
May St.	20 "	8 "	7.5 "	.50	.45	.50	.45	.50	.52	.50	.75
Manholes		168	each	28.00	35.00	28.00	29.85	25.00	35.34	29.50	28.00
Combined flushtanks		20	"	38.00	70.00	55.00	70.00	50.00	82.72	69.50	80.00
Bulkhead and outlet, with 200' 12" c.-i. pipe				1,200	1,500	800.00	1,200	2,000	1,354	1,400	1,000
Lumber, left in place, per M				40.00	30.00	35.00	.....	20.00	30.00	18.00	25.00
Grand total				$24,206	$24,565	$25,186	$26,128	$26,226	$26,454	$28,969	$32,800

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

EXCAVATION.—Marietta, O.—The board of public service received these bids on July 16, 1903, for excavation of the water-works reservoir: City Transfer & Storage Co., 67½ cts. per cu. yd.; Dickinson, Beardsley & Forman, 80 cts.; James F. Carr, 94⅞ cts.

DRIVE EXTENSION.—New York, N. Y.—The following bids were received by Borough President Cantor on July 7 (but were not opened until July 23 on account of injunction) for constructing the extension of Riverside Drive from its northerly end at Manhattanville Viaduct, at 135th St., to 145th St.:

MACADAMIZING.—Toledo, O.—Wm. M. Godfrey, Co. Audr., informs us that the bids received July 22, 1903, for macadamizing stone road No. 16; to cost about $3,000, were as follows: (1) Geo. Overly, Grand Rapids, O.; (2) John Ryan, Whitehouse, O.; (3) Chas Patton, Whitehouse, who was awarded the contract:

	1.	2.	3.
Grading per cu. yd.	$0.10	$0.20	$0.10
Macadamizing, per lin. ft.	12.95	13.00	12.36
Masonry, a cu. yd.	10.00	20.00	18.00
9-in. sewer pipe, per lin. ft.	.40	.70	.30
Rolling and sprinkling	50.00	.....	150.00

BIDS RECEIVED AT NEW YORK, N. Y., JULY 7, 1903, FOR EXTENSION TO RIVERSIDE DRIVE.

Quantities.		Wm. Bradley, 86th St. and B'way	Lenox Const'n Co., 693 Lenox Ave.	J. J. Hopper, 215 W. 125th St.	Ryan & Parker, 21 Park Row.	United E. & C. Co., 21 Park Row.	N.Y.Cont. Jewell Filtration Co., 15 Broad St.
Earth excavation for walls, etc.	118,000 cu. yds.	$0.60	$1.00	$0.70	$0.50	$1.20	$1.00
Loose rock excavation for walls, etc.	8,000 " "	1.00	2.00	.85	.75	1.25	1.00
Rock excavation for walls, etc.	2,500 " "	2.00	3.00	1.50	2.00	2.25	2.50
Filling behind walls, etc.	241,000 " "	.01	.01	.01	.01	.01	.25
Filling for park slopes, etc.	175,000 " "	.55	.01	.12	.01	.15	.25
Concrete in walls and foundations, etc.	34,000 " "	6.00	6.00	6.00	6.50	6.00	5.00
Concrete in arches	2,500 " "	7.00	10.00	7.50	10.00	9.00	10.00
Concrete with expanded metal	400 " "	9.00	20.00	7.50	9.00	9.00	12.00
Rubble backing for walls, etc.	46,000 " "	3.25	5.50	4.25	4.00	6.00	5.00
Concrete backing for walls, etc.	5,000 " "	6.00	6.00	5.50	6.00	6.20	5.00
Rock-face coursed limestone ashlar	1,200 " "	26.00	15.00	11.50	12.00	14.00	10.00
Rock-face coursed granite ashlar	8,000 " "	30.00	25.00	27.00	20.00	22.50	20.00
Rock-face broken range granite ashlar	9,000 " "	30.00	1.00	27.50	18.00	22.50	20.00
Rough-pointed coursed granite ashlar	750 " "	35.00	40.00	42.00	27.00	36.00	25.00
Hammer-dressed granite:							
8-axed work for copings, molding, etc.	50,000 cu. ft.	2.80	2.50	4.00	2.00	2.60	2.50
6-axed work; quoins, belt-courses, etc.	37,000 " "	2.00	2.00	3.50	1.50	2.00	2.50
6-axed work; bridge piers, etc.	2,500 " "	2.75	1.50	2.75	1.50	2.00	2.50
6-axed work; voussoirs	2,000 " "	2.60	2.00	2.75	1.50	2.00	3.00
Rock-face granite voussoirs	1,500 " "	2.30	1.50	1.50	1.00	1.60	2.00
Hammer-dressed limestone voussoirs	1,000 " "	2.50	1.50	1.00	1.00	.80	2.00
Rock-face coursed ashlar granite, walls	3,100 " "	1.20	1.25	1.50	1.00	1.00	1.50
Hammer-dressed granite; parapet walls	500 " "	1.75	3.00	3.50	2.00	1.60	4.00
Rock-face coursed ashlar limestone walls	350 " "	1.00	1.25	.75	1.00	17.00	1.00
Hammer-dressed granite; steps, etc.	3,500 " "	3.00	2.00	2.50	2.00	2.10	3.00
Piles, over 40 ft. in length	900 each	12.50	8.00	9.50	6.00	10.00	10.00
Piles, under 40 ft. in length	6,000 "	11.00	8.00	7.50	5.00	9.00	6.00
Timber for foundations, sheathing, etc.	100,000 ft., B.M.	45.00	35.00	30.00	40.00	43.00	50.00
Timber for sheathing, etc.	5,000 " "	50.00	50.00	36.00	150.00	55.00	60.00
Bluestone; park steps and cheek pieces.	1,500 cu. ft.	2.25	1.25	2.25	1.00	2.00	2.00
Dry filling behind walls, etc.	10,000 cu. yds.	.01	.25	.50	1.00	1.50	.70
Rubble masonry in walls, etc.	25,000 " "	7.00	6.50	4.50	4.00	7.00	6.00
Bluestone curb	6,500 lin. ft.	1.95	1.00	1.25	1.00	1.00	1.50
Granite curb	6,500 " "	2.70	1.00	1.50	1.00	3.00	1.50
Iron chain railing	1,100 " "	1.84	.75	1.50	3.00	1.50	10.00
Gas pipe railing	2,500 " "	2.90	.50	1.00	2.00	2.00	3.00
Vault lights	400 sq. ft.	1.50	4.00	1.80	1.00	1.60	2.00
Guas Tavino arch	450 " "	1.25	.40	2.00	1.00	1.00	2.00
Waterproofing	5,500 sq. yds.	.75	.75	.75	.50	.70	1.50
Steel beams, etc.	30,000 lbs.	.06	.03	.05	.04	.03	.05
Telford macadam roadway	35,000 sq. yds.	1.20	1.00	1.45	2.00	1.00	1.50
Bridle path	7,500 " "	1.00	.60	1.20	2.00	1.00	1.20
Asphalt walks	1,500 " "	2.00	2.00	1.50	2.00	1.85	3.00
Cement walk, granitoid finish	12,000 " "	1.75	2.25	1.50	1.50	1.75	2.00
Flagging for walks	1,200 " "	3.00	1.80	2.75	1.00	2.40	3.00
Gravel for walks	3,000 " "	.15	.50	.60	.50	.60	.50
Sod	355,000 sq. ft.	.025	.02	.02	.03	.025	.05
Mold	15,000 cu. yds.	1.35	1.00	1.50	2.00	1.15	1.50
Trees	350 each	8.00	3.00	3.00	3.00	2.00	5.00
Shrubs	1,000 "	4.00	1.00	1.50	1.00	.50	2.00
Carved granite vases	12 "	300.00	300.00	300.00	300.00	300.00	300.00
Balusters	500 "	35.00	20.00	20.00	15.00	35.00	25.00
Granite playing fountains with fixtures.	2 "	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Same, with figures and fixtures	1 "	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Iron drinking fountain, with fixtures	1 "	1,000.00	1,000.00	1,000.00	500.00	1,000.00	1,000.00
Granite lamp shafts, etc., 4 lights	2 "	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Same, with 1 light	10 "	300.00	800.00	800.00	300.00	800.00	800.00
Same, with 2 lights	10 "	800.00	300.00	300.00	800.00	300.00	300.00
Electric light standards, globes, fixtures	50 "	75.00	50.00	100.00	75.00	75.00	75.00
Iron lamp posts, with 4 lights, complete	5 "	100.00	100.00	100.00	75.00	100.00	100.00
Same, with 1 light, complete	4 "	50.00	100.00	100.00	50.00	20.00	50.00
Ornamental iron gates	2 "	150.00	75.00	800.00	75.00	75.00	600.00
Park seats	80 "	6.00	5.00	10.00	2.50	24.00	20.00
Bronze tablets	2 "	200.00	250.00	250.00	500.00	150.00	600.00
Comfort houses, in bridge abutments	2 "	5,000.00	5,000.00	3,000.00	3,000.00	3,500.00	7,500.00
Public comfort house in park, complete	1 "	3,000.00	10,000.00	15,000.00	8,000.00	18,800.00	12,000.00
Tool house, complete, in park	1 "	17,000.00	4,000.00	3,500.00	2,000.00	6,300.00	6,000.00
Brick sewer, Class 1.	1,663 lin. ft.	18.00	9.00	10.00	4.75	7.75	10.00
" " " 2	730 " "	20.00	12.00	12.50	5.25	8.35	8.00
" " " 3	40 " "	40.00	18.00	22.50	11.75	13.35	10.00
Circular brick sewer, Class 4	180 " "	25.00	9.00	16.50	3.50	8.00	10.00
" brick sewer, Class 5	90 " "	40.00	14.40	25.00	4.75	8.50	10.00
" iron pipe sewer, Class 6.	90 " "	50.00	24.00	40.00	18.00	22.00	40.00
" wooden outfall sewer, Class 7.	20 " "	45.00	9.00	20.00	10.00	5.00	20.00
" brick sewer, Class 8.	437 " "	22.00	9.00	12.50	3.75	8.00	20.00
" brick sewer, Class 9.	80 " "	40.00	14.40	18.00	4.25	8.35	25.00
" cast-iron pipe sewer, Class 10.	80 " "	50.00	20.40	35.00	16.00	20.00	50.00
" brick outfall sewer, Class 11.	30 " "	60.00	18.00	48.00	12.00	13.35	15.00
" wooden outfall sewer, Class 12.	20 " "	40.00	9.00	20.00	6.00	5.00	12.00
Salt-glazed vit. stoneware sewer, Class 13	320 " "	5.00	1.00	3.50	1.12	3.75	3.00
" " " " " 14	120 " "	6.00	1.00	5.50	1.82	4.25	4.00
" " " drain, " 15	580 " "	4.00	1.00	2.00	.92	3.50	2.00
" " " " " 16	806 " "	4.00	1.00	1.75	.82	2.00	1.50
" " " " " 17	1,055 " "	3.00	1.00	1.25	.72	1.50	1.50
" " " " " 18	1,356 " "	3.00	1.00	1.20	.65	1.25	1.00
" " " " " 19	40 " "	2.00	1.00	1.00	.62	.75	1.00
" " " " " 20	40 " "	2.00	1.00	.75	.60	.75	1.00
Manholes, oval pattern, Class A and B.	27 each	75.00	80.00	66.00	60.00	120.00	120.00
Drop-well, of oval pattern	3 "	150.00	200.00	245.00	100.00	225.00	250.00
Receiving basins, circular pattern	24 "	125.00	150.00	175.00	100.00	100.00	200.00
Road basins, circular pattern	17 "	50.00	35.00	50.00	50.00	50.00	60.00
Walk basins, circular pattern	34 "	50.00	15.00	40.00	30.00	30.00	75.00
Surface basins, circular pattern	4 "	50.00	15.00	45.00	40.00	50.00	75.00
Dry rubble masonry, foundation, sewers	4,200 cu. yds.	2.75	2.00	2.00	1.00	3.00	3.00
Straight water pipe	190 tons	34.00	35.00	35.00	35.00	50.00	35.00
Branches and special water pipe castings	8 "	62.00	70.00	65.00	60.00	75.00	75.00
Excavation, rock, for water pipes, etc.	250 cu. yds.	5.00	4.00	6.00	2.00	8.00	7.50
Rock in place excavation for pipes, etc.	320 " "	3.00	3.00	3.00	2.00	4.00	4.00
Earth excavation for water pipes, etc.	400 " "	.00	1.00	.40	.40	.40	1.00
Excavation in material filled in	400 " "	.00	1.00	.40	1.00	.40	1.00
12-in. water pipe, to lay	3,300 lin. ft.	.50	1.00	.30	.50	.50	.30
6-in. water pipe, to lay	1,200 " "	.40	.75	.25	.50	.40	.20
12-in. stopcocks and boxes	4 each	80.00	50.00	75.00	65.00	36.00	60.00
6-in. stopcocks and boxes	8 "	45.00	25.00	40.00	40.00	20.00	40.00
Air cocks and boxes	5 "	65.00	25.00	40.00	25.00	20.00	40.00
Double nozzle N. Y. case hydrants, etc.	9 "	100.00	50.00	85.00	60.00	65.00	60.00
Brick masonry	35 cu. yds.	12.00	15.00	15.00	15.00	12.00	15.00
Branch connections to drinking fountains	4 each	30.00	25.00	60.00	100.00	30.00	75.00
4-in. blow-off valves	2 "	39.00	20.00	30.00	25.00	22.00	50.00
Multiple 4-duct vitrified clay conduit	5,200 lin. ft.	.90	.20	1.20	1.00	.45	1.50
Single duct vitrified clay conduit	2,100 " "	1.00	.075	.85	.40	.24	1.00
Brick manholes with iron covers	12 each	100.00	50.00	110.00	125.00	107.00	100.00
Brick service boxes with iron covers	60 "	50.00	19.00	50.00	45.00	29.00	50.00
No. 4 cable, paper insulation, lead covered	21,000 lin. ft.	.28	.245	.25	.20	.28	.30
No 4 cable, rubber insulation, lead covered	5,500 " "	.26	.245	.22	.30	.34	.30
No. 2 cable, rubber insulation, lead covered	3,400 " "	.28	.27	.25	.20	.45	.35
Branch incandescent lamp circuits	5 each	100.00	60.00	350.00	15.00	60.00	300.00
Lateral wrought iron pipe connections	65 "	35.00	25.00	15.00	15.00	4.00	10.00
Total		$2,119,340	$1,631,056	$1,932,729	$1,513,074	$1,954,396	$1,903,078

*CEMENT.—Charleston, S. C.—Capt. G. P. Howell, U.S. Engrs., received the following bids on July 21 for 17,000 bbls. of American Portland cement; the Alpha company bid to furnish their own brand, the Southeastern company on Lehigh, and the Carolina company on Atlas and also on Phoenix $2.02, $2.17, and 10 cts., respectively: (1) price per bbl in wood, (2) same in sacks, (3) charge for vessel per day, (4) allowance for return of sacks:

	1.	2.	3.	4.
Alpha Portland Cement Co.	$1.84	$1.99	$3.00	10 cts.
Wm. H. Bird & Co.	1.84	1.99	2.00	10 "
Southeastern Lime & Cement Co.	1.90	2.05	.....	10 "
Carolina Portland Cement Co.	2.05	2.20	.....	10 "

*DREDGING.—Mobile, Ala.—We are informed that Rittenhouse-Moore, Mobile, bid 30 cts. per cu. yd., scow measurement, for dredging the outer bar of Mobile Harbor.

*BRICK PAVING.—Niagara Falls, Ont.—John H. Jackson, Engr., writes that the following bids were received July 27, 1903, for 6,500 sq. yds. of brick paving; contract was awarded Forest City Paving Co.; (1) 700 ft. of new curb; (2) 1,200 ft. of old curb reset; (3) 6,500 yds. of brick on 6-in. concrete foundation:

	1.	2.	3.	Total.
Frank V. E. Bardol, Buffalo, N.Y.	$0.48	$0.13	$2.05	$17,717
Forest City Pvg. Co., London, Ont	.44	.13	2.29	15,349
John Maguire, Toronto, Ont.	.68	.235	2.48	16,878
J. F. Speicher, Niagara Falls, N.Y.	.60	.12	2.70	18,114

U. S. POSSESSIONS AND CUBA.

PUBLIC IMPROVEMENTS.—Hawaiian Islands.—Legislature has made appropriations for various public improvements, among them being $150,000 for repairs to wharfs, $75,000 for dredging Honolulu Harbor, $30,000 for insane asylum, and smaller sums for repairs and improvements to several public hospitals. An appropriation of $75,000 is likely to be made for a territorial penitentiary.

SUPPLIES.—Philippines.—Paul S. Carter, U. S. Purchasing Agent for the Civil Government of the Philippines, Battery Place Bldg., New York, is reported about to let contracts for bolts, hose, saws, sheet metals, civil engineers' supplies, carpenters' and blacksmiths' sledges and hammers, ship chandlery, valves, street and paint brushes, leads and paints, iron and steel bars, punches, shovels, spades, rakes, screws, wire nails, drills, wrenches, lubricating oils, tar, pipe and pumping machinery.

MEXICO.

BULL RING.—Monterey.—Iron and steel bull ring to be erected here at cost of about $35,000. Lopez Zambrano is interested.

SMELTER.—Batopolis, Chihuahua.—Smelter to be constructed here. Herman Schneider, Batopolis, can give particulars.

COLD STORAGE PLANTS.—Vera Cruz.—Morris Cold Storage Co. will construct cold storage plants in this city and in the City of Mexico.

WATER-WORKS.—Durango.—Stated that J. F. Fitzgerald, American resident, is planing to construct extensive system of water-works here.

PACKING HOUSE.—Hermosillo.—Manuel L. Chosa, state senator, is said to be interested in a project to establish a large packing house here.

FACTORY.—The owners of the Rio Florida cotton mills, of Santa Rosalia de Camargo, state of Chihuahua, will add a clothing factory to their mills.

CONCENTRATING PLANT.—Guadalajara.—Las Moras Mining Co. plans concentrating plant at its mines at Ameca, this state. G. E. McCormick is Pres.

OIL FIELD DEVELOPMENT.—Morelia.—Hon. Sebastian Camacho, government official of City of Mexico, has encountered oil on his coal fields in the vicinity of Huajutla, and will sink wells.

PAVING.—Camargo.—City authorities have decided to pave Benito Juarez Square and contemplate laying mosaic in the Lerdo de Tejada Park.

STREET RAILWAY.—Campeche.—Street railway system to be established here by the Nuevo Tranvia Co., which has a state concession for that purpose.

ORE WORKS.—El Oro.—Charles Butters & Co., Ltd., London, Eng., will establish large works here for treatment of cyanide tailings of gold-producing camp.

ELECTRIC LIGHT PLANT.—Montemorelos, Tamaulipas.—R. A. Votaw, San Antonio, Tex., contemplates an electric light and power plant here; estimated cost, $175,000.

WATER-WORKS.—City of Leon proposes to construct a water-works system at an estimated cost of $500,000. Address El presidente del Ayuntamiento, Leon, Estado de Guanajuato.

IRRIGATION WORKS.—Victoria, Tamaulipas.—State legislature has granted Pelayo Quintana, Brownsville, Tex., authority to construct large irrigation works on Las Rusias hacienda.

ORE TREATING PLANT.—Tebuco, Sinaloa.—J. M. Milstead, Springfield, Mass., is said to be organizing company to operate mines near here. Plant for treating ores will be put at mines.

LUMBER MILLS.—Tampico.—Tampico Land, Lumber & Development Co., which owns large timber tract near here, will, it is said, establish lumber mills thereon. Wm. Dibble, Los Angeles, Cal., can inform.

IRRIGATION, ETC.—Viesca, Coahuila.—Agricultural & Industrial Co., recently organized with $300,000 cap., will establish irrigation systems on its land near here. J. J. Scott is Mgr. Company to settle a colony on the land.

CAR LINE.—Allende, Coahuila.—Street car line to be constructed between this place and Zarazoza; will eventually extend the line to Ciudad Porfirio Diaz. Mackin & Dillon, of Monterey, may be able to give information.

ASPHALT PLANT.—Plant for refining crude asphalt to be established near here by a New York company owning extensive asphalt deposits in this locality. Dr. Neill E. Prestley, U. S. Vice-Consul, Tampico, can give information.

NEW INDUSTRIES.—Hermosillo, Sonora.—Reported that the Compania Industrial y Explotaroda de Maderas, of this place, is preparing plans for a furniture factory, an ice plant and a brass and iron foundry. All to be located here.

IRRIGATION.—State government of Tamaulipas has approved concession granted to Pelayo Quintana, of Brownsville, Tex., representing Juan A. Hernandez, for the establishment of irrigation works in the Los Rusias hacienda.

ELECTRIC PLANT.—El Oro.—Las Dos Estrellas Mining Co., Jose J. Reynoso, Gen. Mgr., has a concession for utilization of waters of Cienega River, Tlalpujahua district, for industrial purposes. A large electric generating plant will be established there, and power transmitted to the company's mines here.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

RAILWAY.—Batopilas, Chihuahua.—United Mexican Mining & Exploration Co. will build four miles of railway to connect its mill, soon to be erected, and its mine. Mine is situated in the Andres del Rio district, near here. Henry S. Mac Kay is Consult. Engr.

SMELTER.—Morella.—Reported that the Inguaran Copper Mining Co. will erect smelter either at its mines, on the Marques River, or at port of Zihuatenajo, near mouth of Balsas River, Pacific coast. Company recently increased capital to $3,000,000.

POWER PLANT.—City of Mexico.—Andres Lefevre has applied for concession to establish power plant on the Tulancingo River, state of Vera Cruz. Waters will be used to generate electricity and for irrigation purposes. Authority also asked to build dam and aqueduct.

PIPE, ETC.—The Mexican Light & Power Co. is reported about to contract for some 1,800 tons of steel riveted pipe for its hydraulic works at Necaxa, and for 7,000-HP. wheels for direct connection to generators of 5,000-KW. capacity each. Address of company is City of Mexico.

RAILWAY.—Tuxpam.—The Tuxpam Valley R. R. has been located from this port to Metaltoyuca, where a large American colony is located. Construction will commence about Dec. 1. Financial arrangements reported made. Capt. George E. Mills, Tuxpam, can give information.

ELECTRIC RAILWAY.—La Cananea.—The Greene Consolidated Copper Co., 377 Broadway, New York, is to build an electric railway from Ronguillo to La Cananea, where the company's mines, smelting plant, etc., are located; about 2½ miles. Power will be derived from the electric plant just completed.

IRRIGATION, ETC.—Monterey.—Reports state that the newly incorporated Agricultural & Industrial Co., J. J. Scott, Mgr., will locate about 300 families on recently purchased land and establish an extensive system of irrigation. Several large water basins will be constructed on a high level in Laguna county and from these canals will be dug. Louis Lajous, Viesca, is interested.——The Nogales Copper Co. has purchased the Cevro Priesto mines and stamp mills, near Magdelena, Mex., and a cyanide plant will be put in.

POWER PLANT.—The Conchos River Power Co. has acquired the concession recently granted to R. M. Burke, late U. S. Consul at Chihuahua, for the erection of a large power plant at La Joya, where electric energy will be generated for transmission to the cities of Chihuahua and Parral, located eight and 45 miles, respectively, from the plant. Light and power will also be supplied to several mines in the vicinity. Frank H. Wright, Pres. Stanley Instrument Co., Great Barrington, Mass., is Pres. William Stanley, of the Stanley Electric Mfg. Co., Pittsfield, Mass., is also interested in the project. The consulting engineers, through whom the contracts for equipment will be let, are the John F. Kelly Engineering Co., 149 Broadway, New York. The hydraulic engineer, whose representative is now in Mexico, is Geo. F. Hardy, 309 Broadway, New York. There will be four 800-HP. turbine wheels to operate under a head of 125 ft., which will be directly connected with 600-KW., three-phase, 60-cycle, alternating-current water turbine type. A 2,400-KW. board will be ordered and direct-current exciter for that capacity. The transmission line will operate at 40,000 volts.

FOREIGN CONTRACTS—EXPORT NEWS.

TELEGRAPH WIRE.—Argentina.—The government will purchase through the Argentina Legation in England 50 tons of underground telegraph wire.

RAILWAY TIES.—A press dispatch from Victoria, B. C., states that representatives of a South African railway syndicate have been in that city with a view to placing contracts for 3,000,000 hemlock ties.

BATTLESHIPS.—Russia.—The Russian Admiralty's new programme includes six new battleships of 16,000 tons each and three armored cruisers. Construction will commence at once and be completed by 1906.

ASPHALT.—Spain.—The "Gaceta de Madrid" says that bids will be received until Aug. 17 for laying 7,000 sq. meters of asphalt in the city of Saragossa. Bids were first called for June 20, but none were received.

ELECTRIC LIGHT PLANT.—Portugal.—Don Antonio de Rodriquez has contracted with government to supply electric lighting and water to the city of Costello Branco.

CANAL IMPROVEMENTS.—England.—Improvements are projected for the Manchester canal which will result in the deepening of that water way for its entire length of 37 miles from 28 to 30 ft. and in creating a new dock at the Manchester terminal. Herbert M. Gibson, Supt. Traffic, of the canal, is now in this country.

ELECTRIC TRAMWAY AND ELECTRIC PLANT.—Spain.—The Compania Electrica Madrilena de Traccion will build an electric tramway from the Calle del Barquillo and its junction with the Calle de Argensola to the Plaza de Olavide, according to the "Gaceta de Madrid."——The Directorate General of "Administracion Local," Madrid, will receive bids until Aug. 22 for providing the city of Avila with water and electric power. Deposit, about $14,170, which is about 5% of the amount of the estimate.

ENGINEERING MATERIAL PRICES

TRACK FASTENINGS—

New York quotations at mill—Steel splice bars, 1.75 to 1.80 cts.; spikes, 1.85 to 2 cts.; bolts, square nuts, 2.65 to 2.70 cts.; hexagon nuts, 2.75 to 2.85 cts.

Chicago—at mill.—Steel splice or angle bars, 2 to 2.10 cts.; spikes, 2.10 to 2.15 cts.; bolts, square nuts, 3½ to 3¾ ins. and larger, 2.85 to 2.90 cts.; hexagon, nuts, 3 to 3.10 cts.

RAILS, STEEL—

New York—At mill.—New, $28, heavy; girder, $33 to $33.50; old iron, f. o. b., New York, $21 to $22; old steel, f. o. b. New York, $18 to $19; relayers, $25 to $27.

Chicago—At mill.—New, $28, standard sections; second quality, $27; light rails, $34 to $38, according to weight; old iron, $18.50 to $19; old steel, mixed lengths; $17 to $17.50; old steel, long lengths, $19 to $19.50; heavy relayers, $29 to $31.

Pittsburg—At mill.—Standard sections, $28; old iron, $23; old steel, $21 to $21.50.

STRUCTURAL MATERIALS—

New York—At tide water.—Beams, 1.75 to 1.95 cts.; channels, 1.75 to 1.85 cts.; tees, 1.80 to 1.85 cts.; angles, 1.75 to 1.85 cts.; zees, 1.75 to 1.95 cts.

Chicago—At mill.—Beams, channels and zees, 15 ins. and under, 1.75 to 1.90 cts.; 18 ins. and over, 1.85 to 2 cts.; tees, 1.80 to 1.90 cts.; angles, 1.75 to 1.90 cts.; at local yards, beams and channels, 2.25 to 2.50 cts.; angles, 2.25 to 2.50 cts.; tees, 2.30 to 2.55 cts.

Pittsburg.—Beams and channels, up to 15 ins., 1.60 cts.; over 15 ins., 1.70 cts.; tees, 1.60 cts.; zees, 1.60 cts.; angles, 3 × 2 up to 6 × 6 ins., 1.60 cts.

PLATES AND SHEETS—

New York—at tide water.—Tank, ¼-in. and heavier, 1.75 to 2 cts.; flange, 2 to 2.10 cts.; marine, 2.10 to 2.20 cts.

Chicago—F.o.b. Chicago, Universal mill plates, 2 to 2.25 cts.; tank, ¼-in. and heavier, 1.75 to 2 cts.; flange, 1.85 to 2.15 cts.; marine, 1.95 to 2.10 cts.; local stock, f.o.b. Chicago—Tank, 3-16-in., 2.25 to 2.30 cts.; No. 8, 2.30 to 2.40 cts.; flange, 2.40 to 2.50 cts.

Pittsburg, f.o.b.—Universal mill and sheared plates, 1.60 to 1.70 cts.; tank ¼-in. and heavier, 100 ins. wide, 1.60 cts. at mill, Pittsburg; flange and boiler steel, 1.70 cts.; marine ordnance firebox, 1.80 cts.; still bot tom, 1.90 cts.; locomotive firebox, 2.10 to 3 cts.

MERCHANT STEEL—

Chicago—At mill.—Machinery, smooth finished, 2.01½ to 2.11½ cts.; tire, smooth finished, 1.96½ to 2.11½ cts.; spring open-hearth, 2.66½ to 2.76½ cts.; tool crucible, ordinary grades, 6 to 8 cts.; specials, 12 cts. up.

Pittsburg—At mill.—Steel bars, 1.60 cts., half extras.

IRON—

Pig Iron:

New York—Northern foundry, No. 1, X, $17.50 to $18.50; No. 2, X, $16.50 to $17.50; Gray forge, $16 to $17; Southern foundry, No. 1, $16.75 to $17.75; No. 2, $15.50 to $16.50; No. 3, $16 to $17; No. 4, $16.50 to $17.50; soft, No. 1, $16.75 to $17.75; No. 2, $16.50 to $17.50.

Chicago—F. o. b. Chicago.—Lake Superior charcoal, $21.50 to $22.50; local coke foundry, No. 1, $17.75 to $18.25; No. 2, $17.25 to $17.75; No. 3, $16.75 to $17.25; local Scotch, No. 1, $19 to $19.50; Ohio strong softeners, No. 1, $19 to $19.50; No. 2, $18.50 to $19; Southern Silvery, $19.10 to $20; Southern coke, No. 1, $17.35 to $17.85; No. 2, $16.85 to $17.35; No. 3, $16.35 to $16.85; No. 1, soft, $17.35 to $17.85; No. 2, soft, $16.35 to $16.85; foundry forge, $15.35 to $16.85; Southern Gray forge, $15.85 to $16.35; mottled, $14.85 to $15.35; charcoal softeners, $20.85 to $21.85; Alabama and Georgia car wheels, $25.85 to $27.85; malleable Bessemer, $18 to $18.50; standard Bessemer, $18.25 to $18.75; Jackson county and Kentucky Silvery, 6 to 8% silicon, $20.80 to $22.80.

Pittsburg—Bessemer, at Valley furnace, $18; Northern forge, $16.50 to $16.75; Southern, No. 2 foundry, $17 to $17.25; Pitsburg, Southern forge, $16 to $16.50.

Bar Iron:

New York—Refined, on dock, 1.85 to 2 cts.; common, on dock, 1.75 to 1.90 cts.

Chicago—f. o. b. Chicago, mill shipment, 1.65 to 1.70 cts.; soft, 1.76½ to 1.86½; hoops, 2.06½ to 2.16½ cts.; angles, under 3 ins., 1.86½ to 1.91½ cts.; base Bessemer bands, 1.76½ to 1.86½ cts.

Pittsburg.—1.65 cts., f. o. b. Pittsburg.

Cast Iron Pipe:

New York—Car load lots, 8-in. and under, at tidewater, $34; 12-in. and up, $33.

Chicago—Small lots, f. o. b., 4-in. $32; 6-in., $31; 8-in. and larger, $30 for Water and $1 more for Gas Pipe.

MISCELLANEOUS MATERIALS—

Asphaltum:

Ventura, Cal., sh. ton, $32; Cuban, lb., 1½ to 3½ cts.; Egyptian, crude, lb., 5½ to 6 cts.; Trinidad refined, sh. ton, $35; San Valentino (Italian), lg. ton, $16; Seyssel (French), mastic, sh. ton, $21; Gilsonite, Utah, ordinary, lb, 3 cts.

Bitumen:

"B," 3½ cts.; "A," 5 cts.

Cement:

Portland, Am., bbl., $2 to $2.15; foreign, $1.95 to $2.50; slag cement, $1.50 to $1.60.

Copper:

Lake, 13.25 cts.; electrolytic, 13.25 cts.; casting, 12.75 to 13 cts.

Explosives:

Blasting powder, A, 25-lb. keg, 65 cts.; B, $1.40; "Rackarock," A., lb., 25 cts.; B, 18 cts.; Judson R. R. powder, lb., 10 cts.; dynamite (20% nitro-glycerine), 13 cts.; (30% ni.-gly.) 14 cts.; (40% ni.-gly.) 15 cts.; (50% ni.-gly.) 16½ cts.; (60% ni.-gly.) 18 cts.; (75% ni.-gly.) 21 cts.; glycerine for ultro (32-2-10° Be.), lb., 13¼ to 13⅞ cts.

Lead:

New York, spot, 4.20 cts.; Aug., 4.12½ cts.

Lime:

Common, bbl., 75 cts.; finishing, 95 cts.

Marble:

Flour, sh. ton, $6 to $7.

Mineral Wool:

Slag, ordinary, sh. ton, $19; selected, $25; rock, ordinary, $32; selected, $40.

Pitch:

Coal tar, gal., 8 cts.

Tar:

Regular, bbl, $2.40; oil barrels, $4.40.

Tin:

New York, spot, $28.80 to $29; Aug., $28.10 to $28.25.

LUMBER—

New York:

Hemlock, Penn., joists, 12 to 40 ft., $17 per M.; boards, 10 to 16 ins., $18 to $24.50.

Spruce, cargoes, N. Y. delivery, $20 to $23.

Yellow pine, random cargoes, sail deliveries, N. Y., $20 to $21; average cargoes, $20.50 to $22.50.

PAVING AND SEWERS.

Canandaigua, N. Y.

Sealed proposals will be received by the Board of Trustees of the Village of Canandaigua, N. Y., up to one o'clock P. M. of Tuesday, August 18, 1903, for furnishing materials and constructing a pavement and sewer in Main Street and Bristol Street and a pipe sewer in Parrish Street in said village.

The work to be let consists of about sixty thousand square yards of paving, either of Stone, Brick, Asphalt, Telford or Bituminous Macadam, with curbs, sewers, sidewalks, etc.

Cash or certified check on some solvent bank in the State of New York to the amount of $5,000, payable to the Village Treasurer of Canandaigua, N. Y., must be deposited with the President of the Village by each bidder before such bid will be received, as a guarantee that in case a contract is awarded to such bidder, that said bidder will, within five days after notification of award, execute said contract and furnish the required bonds.

The checks of the unsuccessful bidders will be returned to them upon the execution of the contract with the successful bidder.

Bids will be received separately for each street or section, and the Board reserves the right to reject any or all bids, or to accept any which, in the judgment of the Board will be for the best interests of the village.

Specifications, forms of contract, etc., and information can be obtained, and plans examined at the office of the Village Engineer, Canandaigua, N. Y., or at the office of Le Grand Brown, Consulting Engineer, 16 State Street, Rochester, N. Y., after August 4, 1903.

All bids must be made upon blank form of proposal, furnished by the Village Engineer, sealed and addressed to Dr. C. J. Andruss, President, Canandaigua, N. Y., and endorsed upon the outside "Proposals for pavements and sewers," together with the name of street on which such bid is made.

C. J. ANDRUSS, President.

LeGRAND BROWN,
Village Engineer.

July 24, 1903. 6-2t

PUBLIC IMPROVEMENT BONDS.

Wilson, N. C., July 30, 1903.

The Town of Wilson, N. C., offers for sale $40,000 Water, Sewerage and Street Improvement Bonds. Sealed bids will be received until Aug. 31, 1903. Bonds dated Oct. 15, 1903, and bear 5% interest, payable semi-annually. Interest and principal payable in New York city. Wilson has never defaulted any interest, repudiated any issue or engaged in any litigation affecting its bonds. Apply to DOANE HERRING, Mayor, for full particulars. 6-6t

OFFICE CHIEF OF ENGINEERS, War Department, Washington, D. C., Aug. 3, 1903.—Sealed proposals for furnishing and delivering chain ammunition hoists will be received here until 12 noon, Sept. 2, 1903, and then publicly opened. Information furnished on application here or to Captain Harry Taylor, Engrs., Winthrop Building, Boston, Mass. FREDERIC V. ABBOT, Major, Engrs. 6-4t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 31, 1903.—Notice is hereby given that the time for opening the bids for the new vaults (except vault doors) Cash Room, Office of the U. S. Treasurer, and work incidental thereto, in the U. S. Treasury Department Building Washington, D. C., has been extended from August 5, 1903, to 3 o'clock P. M., August 17, 1903. JAMES KNOX TAYLOR, Supervising Architect. 6-1t

FORT SLOCUM, N. Y.—Sealed proposals, in triplicate, for constructing Additions to Post Hospital here, will be received until 11 a. m., Aug. 10, 1903. U. S. reserves right to reject or accept any or all proposals. Envelopes to be marked "Proposals for Constructing Additions to Post Hospital." Information on application. M. R. HILGARD, Q. M. 3-1t 6-1t

DOUBLE DECK STEEL BRIDGE.

Kansas City, Kan.

Sealed proposals for furnishing and erecting a double deck, steel bridge across the Kansas River on Central Avenue, in Kansas City, Kansas, will be received simultaneously at 12 o'clock noon, August 31st, 1903, and forthwith opened, by the Board of County Commissioners of Wyandott county, Kansas, at the office of the County Clerk, in the court house of said county, in Kansas City, Kansas. Plans, specifications, and forms for submitting bids will be on file in the office of said County Clerk on and after August 1st, 1903. The contract will be awarded to the lowest responsible bidder, but the right to reject any and all bids is reserved if the board deems the proposals too high, or for any other reason. Each bud must be accompanied by a certified check for fifty dollars, payable to F. M. Holcomb, County Clerk, to be forfeited in case successful bidder fails to enter into the contract.

Dated at Kansas City, Kansas, July 23, 1903.

By order of the Board of County Commissioners, Wyandott county, Kansas.

(Seal.) F. M. HOLCOMB,
6-4t County Clerk.

SEALED PROPOSALS will be received at the office of the National Home for Disabled Volunteer Soldiers, 346 Broadway, New York, N. Y., until 12 o'clock m., Tuesday, Aug. 18, 1903, and then opened, for furnishing materials, labor, etc., for the construction of Four Officers' Quarters, and One Governor's Residence, at the Mountain Branch, N.H.D.V.S., near Johnson City, Tenn. Plans may be seen, and copies of instructions and specifications together with blank proposals and other information had upon application to the Architect, J. H. Freelander, 244 Fifth Ave., New York, N. Y.; to the Superintendent of Construction, Mountain Branch, Johnson City, Tenn.; and to MOSES HARRIS, General Treasurer, 346 Broadway, New York, N.Y. 5-3t

4,350 FT. PIPE SEWERS.

Somonauk, Ill., July 27, 1903.

Sealed bids will be received until 2 o'clock p. m., Friday, the 14th day of August, 1903, for the laying of 4,350 feet of 24-inch sewer pipe, in the Village of Somonauk, Ill. A deposit of 10% required with each bid. Board of Trustees reserve right to reject any or all bids. Plans and specifications on file at office of undersigned.

Somonauk, Ill., Aug. 3, 1903.

J. T. HOLMQUIST,
6-1t Village Clerk.

PROPOSALS FOR PUBLIC BUILDINGS.—Office Constructing Quartermaster, U. S. A., 34 Keating Block, San Diego, Cal., Aug. 5, 1903.—Sealed proposals, in triplicate, will be received here until 10 a. m. Sept. 4, 1903, and then be opened, for the construction, plumbing, heating and electric wiring of two double officers' quarters, one double N-C-O quarters and one coast artillery barrack at Fort Rosecrans, Cal. A guarantee required to amount of 10% of bid. Preference will be given to articles of domestic production, cost and quality considered, and to articles of American production produced or manufactured on the Pacific Coast. Bidders must state in their bids the time in which they will complete work. Instructions to bidders furnished at this office or at office of Chief Quartermaster, San Francisco, Cal., where plans and specifications can be seen. U. S. reserves the right to accept or reject any or all bids, or any part thereof. Envelopes containing proposals should be endorsed "Proposals for Public Buildings, Port Rosecrans, Cal.," Captain R. H. Rolfe, Q. M. 6-4t

Block Signal Operation,

A Practical Manual by

WM. L. DERR, Superintendent of the Delaware Division of the Erie Railroad.

Cloth, oblong, 4½×6½ ins.; 270 pp.; fully Indexed and Illustrated. Price, $1.50.

The Engineering News Publishing Co.

MACADAM ROADS.

SEALED BIDS OR PROPOSALS.

Sussex County, N. J.

Sealed bids or proposals will be received at the Court House, in Newton, New Jersey, on Tuesday, the twenty-fifth day of August, 1903, at 11 o'clock in the forenoon by the Board of Chosen Freeholders of the County of Sussex, for macadamizing the following sections of road, viz:

The public road in the Township of Sparta, in said County of Sussex, leading from the Village of Sparta to the Town of Newton, in said county, and beginning at the westerly end of that part of said public road, which is now being improved under resolution, contract and specification, adopted in the year 1902, as a county road with State aid, and extending one mile from said beginning on the line of the present public road in the direction of said Town of Newton.

And also the public road leading from the Town of Newton, aforesaid, to the Village of Andover, in said County of Sussex, and beginning on the line between said Town of Newton and the Township of Andover, for the distance of two miles toward Andover.

And also the public road leading from the Village of Stillwater, in said County of Sussex, to East Stillwater, along the Paulins Kill, beginning in said public road opposite the blacksmith shop in said village of Stillwater, and extending along said public road for the distance of one mile toward East Stillwater.

And also the public road leading from Warwick, in the State of New York, through the Village of Vernon, in the County of Sussex, to McAfee, in said Township of Vernon, beginning opposite the residence of Ira Drew, in said Township of Vernon, and extending through the Village of Vernon towards McAfee, aforesaid, a distance of two miles.

And also the public road leading from Lafayette to Franklin Furnace, in said County of Sussex, by the way of North Church, beginning on said public road where the line between the Township of Sparta and the Township of Hardyston crosses the same near what is known as Monroe Corner, and extending toward Franklin Furnace, a distance of two miles.

And also the public road leading from the Borough of Sussex, in said County of Sussex, and beginning on said public road at the westerly terminus of that part of said road which is now being improved under resolution, contract and specification adopted by this Board in the year 1902, and extending along said public highway towards said Town of Newton, a distance of one mile.

And also the public road leading from Stanhope to the Town of Newton, in said County of Sussex, beginning at the northerly terminus of that part of said road that is now being improved under resolution, contract and specification adopted by this Board in the year 1902, and extending along said highway towards Newton a distance of one mile and that part of the public road leading from the county line between the counties of Morris and Sussex, through the village of Stanhope, to Newton, be top-dressed with crushed stone from said county line to the southerly end of that part of said public road that is now being improved by resolution, contract and specification adopted by the Board of Freeholders of the County of Sussex in the year 1902.

And also the public road leading from what is known as Tuttles Corner, in the Township of Sandyston, and extending toward Layton, in said Township, for a distance of one-half mile.

And also the public road leading from Tri-States in the County of Orange, and State of New York, through what is known as Tappentown, in the Township of Montague, in said County of Sussex, and beginning at the State line between the State of New York and State of New Jersey, where the same crosses said highway, and extending along said public road leading to Hainesville, in said County of Sussex, by what is known as the Clove road, a distance of one mile from said State line.

Be improved under and by virtue of the provisions of an act entitled, "An act to provide for the permanent improvement of public roads in this State," approved April 1, 1903.

The maps, profiles and specifications may be found at the office of A. H. Konkle, County Engineer, Newton, N. J., or in his absence, at the office of L. J. Martin, County Attorney; where information may be secured and blank bids and bonds obtained.

Each bid must be accompanied by a bond in $1,000 with satisfactory surety conditioned that if the contract shall be awarded the bidder, he will, when required by the Board, execute an agreement in writing to perform the work according to the specifications, and a bond in at least the contract price, to faithfully perform the work.

Bidders submitting bids on more than one of the above mentionel roads or sections of roads shall enclose the same in separate envelopes with the name of the road or section for which the same is submitted, and also the name of the bidder endorsed thereon. Noncompliance with this provision shall result in the rejection of the bid as informal.

The stone to be used shall be of the best native loose rock or stone.

The stone shall be crushed and properly screened and graded.

Bids must be for completed work, including all materials.

No bids shall be withdrawn.

The price must be written in the bids and stated in figures.

Bids must be accompanied by the name and residence of the bidder.

Informal and "unbalanced" bids will be rejected. Bids will be rejected as informal that do not cover and include all the work completed, including the necessary and proper preparation for the foundation of the roadbed and such grading as may be called for in the contract and specifications and on the maps and profiles.

Bidders must satisfy themselves by personal examination or otherwise, of the nature and extent of the work, the width, length and depth of cuts and fills, the size and quantity of drain pipe and the width, depth and extent of the gutters, and shall not at any time after the submision of a bid, dispute or complain of errors in estimates or assert that there was a misunderstanding in regard to the excavations or fills, the work to be done, or the materials furnished.

The right is reserved to increase or diminish the cuts and fills along the line of the work.

The right to reject all bids is especially reserved.

The right to return all bids relating to any one of the above mentioned roads before the same are opened by the committee is hereby expressly reserved.

EMMET H. BELL,
Director of the Board of Chosen Freeholders.
Sussex County, New Jersey. 5-4t

GRAVEL ROAD.

Freehold, N.J., July 17, 1903.

Sealed proposals for building the Manasquan and Belmar Gravel Road, under the provisions of the State Aid Road Laws of New Jersey, and as designated in the plans and specifications, will be received by the Committee of the Board of Chosen Freeholders of the County of Monmouth at the Court House in Freehold, N. J., on Wednesday, the 12th day of August, 1903, at 12 o'clock, noon, and then and there publicly opened. Specifications and information regarding said construction may be had by applying at the County Collector's Office in Freehold, or of W. H. Shafto, Engineer, Villa Park, N. J., or of W. P. Lefferson, Chairman of the Road Committee, Manasquan, N. J.

Each sealed bid must be plainly endorsed, "Proposals to Build the Manasquan and Belmar Gravel Road," and must be accompanied with a certified check for one thousand dollars, payable to the Director of the Board of Chosen Freeholders as a guarantee that if said work is awarded to the bidder he will enter into a written contract and agreement with said Board of Freeholders when thereto required to truly and faithfully perform all of said work according to the plans and specifications; and further, at the same time, will execute and deliver to said Board, his bond in a penal sum of at least the total estimated cost of the work, with two or more freeholders of said county as sureties, to be approved by the director of the Board, conditioned for the faithful performance of said work in strict conformity with the plans and specifications.

The Board reserves the right to reject any and all bids.

JOHN GUIRE,
4-3t Director of Board of Chosen Freeholders.

STEEL HIGHWAY BRIDGE.

Office of Supervisors, }
Alexandria County, Va. }

Sealed proposals shall be received at this office until 10 o'clock a. m., Aug. 10, 1903, for constructing a Steel Highway Bridge over Four Mile Run, on the Seminary Road. For information, address

GEO. E. GARRETT,
5-2t St. Elmo, Alexandria Co., Va.

U. S. ENGINEER OFFICE, Custom House, New Orleans, La., July 18, 1903.—Sealed proposals for constructing Approaches, including excavation and fill, of Lock at Plaquemine, La., will be received here until 12 m., Aug. 18, 1903, and then publicly opened. Information furnished on application. H. M. ADAMS, Lieut.-Col., Engrs. 4-4t

BRICK PAVING—PIPE SEWERS.

Greenwich, Conn.

Sealed proposals for about 3,700 sq. yds. of Brick Pavement and 1,500 lin. ft. of Pipe Sewers will be received by the Board of Wardens and Burgesses of the Borough of Greenwich, Conn., until 6 o'clock p. m., August 14th, 1903. Further information may be obtained at the office of the Borough Clerk, Room 5, 96 Greenwich Ave., Greenwich.

The right is reserved to reject any or all bids.

Signed, S. E. MINOR,
6-1t Borough Clerk.

PIPE AND BRICK SEWERS.

Coatesville, Pa.

Sealed proposals will be received by the Borough Council of Coatesville, Pa., up to August 10, 1903, for the construction of the following described sewer work:

4,500 ft. 18-in. D. S. terra cotta sewer.
150 " 18-in. D. S. terra cotta sewer in concrete.
850 " 18-in. cast or wrought iron sewer.
430 " 4 ft. 6-in. brick or concrete sewer.
25 " 3ft. 9-in. brick sewer.
19 manholes.
1 intercepter.

All bids to be compared from above quantities. Certified check for $250.00 required with bid. Right to reject any and all bids reserved.

H. G. BOOK.
ROBERT YOCHUM, Engineer.
Chairman of Sanitary Com. 6-1t

19,500 YDS. BRICK OR ASPHALT PAVING.

NOTICE TO CONTRACTORS.

Lake Charles, La., July 31, 1903.

Sealed bids wanted by Sept. 1st, 1903, at Lake Charles, La., on 19,500 sq. yds. of brick or asphalt paving. Write C. M. Boren, City Engineer, for plans and specifications.

C. H. WINTERHALER, Mayor.
Attest: S. O. SHATTUCK, Clerk. 6-4t

STEEL BRIDGE AT 12TH ST.

Kansas City, Kan.

Sealed proposals for furnishing and erecting a steel bridge across the Kansas River, at Twelfth Street in Kansas City, Kansas, will be received simultaneously at 12 o'clock noon, August 31st, 1903, and forthwith opened, by the Board of County Commissioners of Wyandott county, Kansas, at the office of the County Clerk, in the court house of said county, in Kansas City, Kansas. Plans, specifications, and forms for submitting bids will be on file in the office of said County Clerk on and after August 1st, 1903. The contract will be awarded to the lowest responsible bidder, but the right to reject any and all bids is reserved if the board deems the proposals too high, or for any other reason. Each bid must be accompanied by a certified check for fifty dollars, payable to F. M. Holcomb, County Clerk, to be forfeited in case successful bidder fails to enter into the contract.

Dated at Kansas City, Kansas, July 23, 1903.

By order of the Board of County, Commissioners, Wyandott county, Kansas.

(Seal.) F. M. HOLCOMB,
6-4t County Clerk.

SEWAGE DISPOSAL PLANT, AND WATER SUPPLY SYSTEM.

NOTICE TO CONTRACTORS.

Raybrook, N. Y.

Sealed proposals suitably endorsed on envelope for a Sewage Disposal Plant and also for a Water Supply System at the N. Y. State Hospital for Tuberculosis at Raybrook, N. Y., may be sent by mail or delivered in person up to 12 o'clock m., on Tuesday the 18th day of Aug., 1903, to Howard Townsend, President of the Board of Trustees, at the office of the State Architect in the Capitol, Albany, N. Y., when the bids will be opened and read publicly.

Drawings and specifications may be consulted and blank forms of proposal obtained by application to G. L. Heins, State Architect, in the Capitol, at Albany, N. Y.

Contracts will be awarded to the lowest responsible and reliable bidders unless the bids exceed the amount of funds available therefor, in which case the right to reject all bids is reserved. 6-2t

TWO MILES RAILROAD GRADING.

Wanted contractors to bid on the grading for a railroad siding at or near Derry Church, Penna., and about two (2) miles long.

KEYSTONE MARBLE CO.,
756 Cumberland St.,
6-1t Lebanon, Penna.

BRIDGE.

NOTICE OF RECEPTION OF PROPOSALS FOR RIVER BRIDGE IN THE CITY OF BINGHAMTON, N. Y.

Binghamton, N. Y., July 28, 1903.

Notice is hereby given that the City of Binghamton will receive up to Aug. 18th, 1903, at 5 o'clock p. m., proposals for the erection complete of the superstructure and repairs to substructure of a bridge across the Susquehanna River on Rockbottom St., in the City of Binghamton, N. Y. According to the plans and specifications therefor prepared by the City Engineer of said city and filed with the City Clerk, the entire work will be awarded together to one bidder. Bids for either substructure or superstructure separate will not be considered, but in making proposals therefor bidders must conform to the form proposal which will be furnished upon application to the City Clerk. The bidder to whom the work shall be awarded will be required to enter into contract with the city therefor and to give at the time of entering into such contract a bond in the sum of $10,000, conditioned for the faithful performance of the contract in all its parts, with two sureties, residents of the State of New York, or a surety company duly authorized to execute such bonds within the State of New York, said surety or sureties to be approved by the Mayor of said city. Each proposal must be sealed and marked "Proposal for construction of a Bridge for the City of Binghamton," and be addressed to I. C. Hull, City Clerk. With each proposal must be a certified check or New York draft for the sum of $2,000, payable to the order of I. C. Hull, City Clerk, which check or draft shall be held as a guaranty that the party to whom the work is awarded will enter into contract therefor and give the bond required. The city reserves the right to reject any or all bids.

I. C. HULL,
5-2t City Clerk.

TIMBER PILE BRIDGE.

Toms River, N. J.

SEALED PROPOSALS.—The Board of Chosen Freeholders of the County of Ocean, and State of New Jersey, will receive until 12 o'clock noon, the 25th day of August, A. D. 1903, at the Court House in Toms River, N. J., proposals for building a timber pile bridge over Barnegat Bay at Mantoloking, Ocean County, N. J.

The work includes the taking up of old bridge with the exception of draw span and building of new land approaches and new wooden pile bridge approaches to draw of aggregate length of about 989 feet additional to draw span.

Each bid or proposal must be accompanied by a certified check for one hundred dollars made payable to the Collector of the County of Ocean, N. J., or bond double that amount with two real estate sureties satisfactory to the Board, guaranteeing that as soon as contract is awarded to bidder for amount of his bid, he will enter into a contract in writing to perform the work according to the specifications, and will furnish bond in double the amount of his bid with two real estate sureties satisfactory to the Board of Chosen Freeholders of the County of Ocean, guaranteeing the faithful performance of the contract.

The right is reserved by the said Board to reject any and all bids.

All bids must be presented sealed up and endorsed:

"Proposals for building a timber pile bridge over Barnegat Bay at Mantoloking, Ocean County, N. J."

Plans and specifications may be seen at the store of I. B. Osborn, chairman of the building committee, at Osbornville, Ocean county, N. J., and at the drug store of W. J. Harrison at Lakewood, N. J., and at the office of William H. Fischer, Clerk of the Board, at Toms River, Ocean County, N. J.

I. B. OSBORN,
W. J. HARRISON,
C. A. WILBUR,
R. L. DISBROW,
JOHN A. HYERS,
Bridge Committee.

Dated July 21, A. D. 1903. 6-3t

Plans and specifications may be seen at the office of Engineering News, N. Y.

NOTICE OF LETTING OF

DRAINAGE CONTRACT.

Calhoun County, Iowa.

The undersigned will receive bids up to noon, Aug. 16, 1903, for the digging of a ditch from 8 to 24 feet wide on the bottom and cutting from 3 to 10 ft. deep; 16 miles in length. Total excavation about one-half million yds. Profile and specifications on file.

B. E. STONEBRAKER,
Auditor of Calhoun County, Rockwell City, Iowa. 6-1t

WATER-WORKS.

Schuylerville, N. Y., August 6, 1903.

Separate sealed proposals will be received by the Board of Trustees of the Village of Schuylerville, N. Y., until 3 p. m. Thursday, August 27, 1903, at the office of the Board, for the following:

1. For manufacturing, furnishing and delivering about 576 net tons of 6, 8, 10 and 12-inch cast-iron pipe and 22,000 pounds of special castings.
2. For manufacturing, furnishing and delivering valves, valve-boxes and hydrants.
3. For the construction of a system of water-works. This includes the laying of about 27,500 lineal feet of cast-iron pipe and the construction of two reservoirs having concrete walls and capacities of 500,000 and 200,000 gallons.
4. For the construction of a pumping station about 24 feet by 48 feet in size.
5. For the furnishing and erection of a gasoline engine and a triplex pump having a capacity of 400 gallons per minute.

Plans and specifications may be seen and blank proposals and other information obtained at the office of the Village Clerk.

W. E. BENNETT,
Village Clerk.

6-2t

WATER-WORKS.

Manasquan, N. J.

Sealed proposals will be received until 8 P. M., August 25, 1903, by the Council of the Borough of Manasquan, N. J., for all the labor and material necessary to complete a system of water-works.

Bids will be classed as follows:

A.—Pipes, valves, specials and fire hydrants, delivered f. o. b. Manasquan, N. J.
B.—Pipe laying and setting of all valves, hydrants and specials.
C.—Standpipe 15 feet by 115 feet, in place.
D.—Two 9 × 10 triple pumps and two 21-HP. gasoline engines, set up complete.
E.—Three six-inch wells.
F.—One-story brick pumping station, 22' × 31', also concrete foundation for standpipe, pumps and engines.

Bids will be received for the whole work contemplated or for one or more classes separately. A certified check for five per cent of amount bid payable to F. B. Woolley, Mayor, must accompany each bid, as surety that if the proposal be accepted, a contract will be entered into and an approved bond furnished equal to half the amount of the contract, within ten days of acceptance; said check to be forfeited in case the bidder shall neglect or fail to enter into said contract and furnish said bond within the time specified.

The Mayor and Council of Manasquan hereby reserve the right to reject any or all bids, or to accept any bid or bids.

Plans and specifications on file with the Borough Clerk and at the office of Pugh & Downing, Lippincott Building, Philadelphia.

W. A. MOUNT,
Borough Clerk.

Dated Aug. 4, 1903. 6-3t

WATER-WORKS.

Gulfport, Miss.

Sealed proposals will be received by the City Clerk of the Town of Gulfport, Mississippi, until 12 o'clock noon (city time) of Tuesday, the 25th day of August, 1903, for furnishing all materials, labor, tools and appliances for the erection of a water-works system for the said town, in accordance with the plans and specifications now on file and consisting of the following items approximately:

One 8-in. artesian well.
800 tons of 6-in. to 14-in. cast-iron pipe.
50 standard fire hydrants.
50 valves.
15 tons of specials.
One two-million gallon compound duplex pump.
One two-hundred-thousand-gallon brick receiving basin.

Plans and specifications are on file at the office of the City Clerk, at Gulfport, Mississippi, and at the office of the Engineer, at Jackson, Mississippi.

All bids must be made upon the blanks furnished and accompanied by a certified check for $500.00, payable to the City Treasurer.

The City reserves the right to reject any and all bids.

J. I. BALLINGER,
E. W. WELLS, City Clerk.
WM. F. WILCOX, Engineer. 6-1t

U. S. ENGINEER OFFICE, Montgomery, Ala., July 25, 1903.—Sealed proposals for Dredging at West Pass entrance to Apalachicola Bay, Fla., and East Pass entrance to Carrabelle Harbor, Fla., will be received here until noon Aug. 12, 1903, and then publicly opened. Information furnished on application. J. B. CAVANAUGH, Capt., Engrs. 5-2t

WATER-WORKS IMPROVEMENT.

Borough of Coatesville, Pa.

Sealed proposals will be received by the Borough Council of Coatesville, Pennsylvania, at the Council Chambers, up to 8 o'clock p. m., of the 12th day of August, A. D. 1903, for laying approximately 4,300 feet of cast-iron pipe 16 inches in diameter, 2,200 feet of 10-inch cast-iron pipe, with valves, hydrants and all necessary fittings and connections, shown upon the plan.

Specifications may be procured from the Superintendent of Water-Works.

Each bid must be accompanied with a certified check for two hundred and fifty dollars (250.00), drawn payable to J. V. Pennegar, Borough Treasurer.

The right to reject any and all bids is reserved.

NORMAN R. ENTREKIN,
6-1t Chairman Water Committee.

WATER-WORKS BONDS.

Manasquan, N. J.

Sealed proposals for Thirty-five thousand dollars of four per cent, thirty-year water-works bonds will be received by the Council of the Borough of Manasquan, N. J., until the twenty-fifth day of August, Nineteen hundred and three, at eight o'clock P. M.

Certified check for five per cent of amount bid for, drawn in favor of F. B. Woolley, Mayor, is required with offers.

For full particulars, address Willis A. Mount, Borough Clerk.

WILLIS A. MOUNT,
Borough Clerk.

Dated July 28th, 1903. 6-3t

WATER-WORKS.

Mt. Penn, Pa.

Sealed proposals will be received by the Mt. Penn Suburban Water Co., near Reading, Pa., up to 6 P. M., Aug. 25, 1903, for building reservoir, furnishing and laying cast-iron pipes, about 4,000 feet 4-inch, and about 8,000 feet 6-inch; fire hydrants, valves, etc., for gravity flow.

Company reserves right to reject any or all bids.

For particulars, address

M. D. HUNTER, Secy.,
6-1t P. O. Box 283, Reading, Pa.

WATER-WORKS.

The City of Winston, N. C.

Masonry, and Earth Embankment Dam; Clear Water Basin; 9,000 ft. each of 12-in. and 10-in. Water Main; Stand-Pipe, 25 × 75 ft.

Sealed bids will be received by the Water Committee of the City of Winston, N. C., until 2 o'clock on the 14th day of August, 1903, at which time all bids will be publicly opened, in the office of the Mayor.

For the construction of a Rubble Masonry and Earth Embankment Dam, containing about 1,100 cu. yds. of masonry and 4,000 cu. yds. of packed embankment.

For the construction of a Clear Water Basin, requiring about 7,000 cu. yds. packed embankment and 9,000 sq. yds. of concrete 6 ins. thick.

For the Trenching for and Laying 9,000 lin. ft. each of 12-in. and 10-in. Water Main.

For the construction of a Stand-Pipe 25 ft. in diameter and 75 ft. high.

Contractors will bid for each—the Dam, the Clear Water Basin and Pipe Line separately.

Each bid must contain the full name of every person or company interested in the same, and be accompanied by a bond to the satisfaction of the Committee, or a certified check on some solvent bank in the sum of $300 as a guarantee that if the bid is accepted a contract will be entered into and its performance properly secured. Should any bid be rejected such bond or check will be promptly returned to the bidder and should any contract be entered into said bond or check will be returned upon the signing of the same.

The right is reserved to reject any and all bids. Information upon application to the City Engineer, to whom all bids must be directed.

JAS. K. NORFLEET, Chairman,
F. J. LIIPFERT,
GEO. T. BROWN,
ROBT. P. HENRY, Committee.
City Engineer. 5-2t

SEALED PROPOSALS will be received at the Office of the Light-House Engineer, Fifth District, Post Office Building, Baltimore, Md., until 12 o'clock M., September 3, 1903, and then opened, for furnishing the materials (except metal work) and labor of all kinds necessary for the construction, erection and delivery of the Baltimore Light-House, Md., in accordance with specifications and drawings, copies of which, with blank proposals and other information, may be had upon application to W. A. JONES, Colonel, Corps of Engineers, U. S. Army. 6-1t

NOTICE TO CONTRACTORS.

BIDS FOR THE CONSTRUCTION OF STONE AND GRAVEL ROADS IN THE COUNTY OF MIDDLESEX, N. J.

Sealed bids will be received by the Board of Chosen Freeholders of Middlesex County, on

WEDNESDAY, SEPT. 2D, 1903,

at the hour of 11 o'clock in the forenoon, in the Court House, New Brunswick, for the construction of stone and gravel roads, according to plans and specifications (no partial bids will be received) on file in the office of the County Engineer, No. 389 George street, and in the office of the County Solicitor, No. 384 George street, New Brunswick, New Jersey.

The roads to be improved are designated as follows:

STONE ROAD NO. 1.

Beginning at the water's edge on the Sayreville side of the Amboy bridge, and running to Steven's avenue, the distance on said road to be improved being one and one-quarter miles.

STONE ROAD NO. 2

From Birch Creek, in Sayreville Township, to the Deep Cut bridge, near South Amboy, being 2 53-100 miles.

STONE ROAD NO. 3.

Beginning at the intersection of the New Brunswick Bound Brook road with the Landing Bridge and New Market road, the distance on said road to be improved being one mile and fifty-one hundredths.

STONE ROAD NO. 4.

Beginning at the end of Metuchen-New Durham macadam road and extending to the Stelton-New Market macadam road, the distance on said road to be improved being one mile.

STONE ROAD NO. 5.

Beginning at Oak Tree and extending towards Iselin, the distance on said road to be improved being one mile and one-quarter.

STONE ROAD NO. 6.

Beginning at Plainsboro railroad bridge and running to the Trenton and New Brunswick Old Stage road, thence on said Stage road to Mercer County line, the distance on said road to be improved being one and one-half miles.

GRAVEL ROAD NO. 7.

Gravel road from Manalapan stone road to Applegarth, in Monroe Township, being one mile.

All bids must state the price for which the materials will be furnished, and the work done and entirely completed and must be accompanied with the bidder's certified check for the sum of One Thousand Dollars payable to the Director of the Board of Chosen Freeholders, as a guarantee that if the contract should be awarded to him, he will, when required by the Board of Chosen Freeholders, execute a contract to perform the work according to the plans and specifications, and will also, within ten days from the date of awarding to him the said contract, give to the Board of Chosen Freeholders a bond, said bond being a Surety or Trust Company bond, and conditioned for the faithful performance of the said contract in the sum equal to the estimated cost of said work and in default of presenting said Surety or Trust Company bond within said ten days, he shall be considered as having abandoned the contract.

Bidders must be prepared to satisfy the Board of their ability to furnish the necessary materials and complete the work on or before Nov. 1, 1903, and must submit samples of stone with name of stone quarry.

Each bidder must endorse on the outside of the sealed envelope containing the bid, the number of the road, the length of the road to be improved, and must distinctly state in writing thereon, the full names, residences and Post Office addresses of all the parties interested in making said bid.

All bids must be made upon blank proposals furnished by the County Engineer, or the County Solicitor.

The right to reject any or all bids is expressly reserved by the Board of Chosen Freeholders, if, in their opinion, good cause exists therefor.

ASBURY FOUNTAIN,
Director of the Board of Chosen Freeholders of the County of Middlesex, N. J.

Attest:
D. W. CLAYTON, Clerk.
Dated August 2, 1903. 6-4t

REBUILDING RESERVOIR.

Easton, Pa.

Sealed proposals will be received at the office of the Lehigh Water Co., Easton, Pa., until noon of August 19th, 1903, for reinforcing, enlarging and lining with concrete and brick a reservoir in the above city, involving about 3,000 cu. yds. of rock excavation, about 12,000 cu. yds. of embankment and 1,500 cu. yds. of concrete.

A certified check for $500, payable to the Lehigh Water Co., must accompany each proposal as surety that, if the proposal be accepted, a contract will be entered into and a bond furnished equal to half the amount of the contract within ten days of acceptance.

Plans and specifications may be examined at the company's office, Centre Square, Easton.

The right is reserved to reject any or all bids.

JOSEPH RODENBOUGH,
President.
A. PRESCOTT FOLWELL,
Consulting Engineer. 6-2t

SEWERAGE SYSTEM

NOTICE TO CONTRACTORS.

Penn Yan, N. Y.

Sealed proposals will be received by the Board of Water and Sewer Commissioners of the Village of Penn Yan, N. Y., until 12 o'clock noon, on Tuesday, August 25th, 1903, for the construction of a system of sewers, consisting of about 13 miles of pipe, sewers and treatment works, with its manholes, flush tanks and other appurtenances.

Bids will be received for the entire work and also separately for the manhole, lamphole and flush tank castings, and for the broken stone filtering material.

Plans and profiles can be seen and specifications obtained at the office of the Board at Penn Yan, or plans seen and specifications obtained at the office of Knight & Hopkins, Civil Engineers, Rome, N. Y.

The Board hereby reserves the right to reject any or all bids, or to accept any that in their judgment will be for the best interests of the village.

Cash or certified check, made payable to the order of the Board of Water and Sewer Commissioners, Penn Yan, N. Y., to the amount of $1,000, must be deposited by each bidder and accompany his bid as a guarantee that in case the contract is awarded him he will, within seven days thereafter, execute said contract. No cash or certified check will be required on separate bids for castings and broken stone.

Bids must be sealed and addressed to the Board of Water and Sewer Commissioners, H. K. Armstrong, Secretary, Penn Yan, N. Y., and marked on the outside of the envelopes enclosing them "Proposals for Penn Yan Sewers."

(Signatures of the Board.)

WM. HOLLOWAY, President,
H. K. ARMSTRONG, Secretary,
W. J. TURNER, Treasurer,
SENECA L. PRATT,
FRED H. LYNN. 6-2t

U. S. ENGINEER OFFICE, Witherspoon Building, Philadelphia, Pa., August 6, 1903.—Sealed proposals for constructing one steel, twin-screw, suction dredge for Savannah Harbor, Ga., will be received here until 12 noon September 5, 1903, and then publicly opened. Information furnished on application. J. C. SANFORD, Capt., Engrs. 6-4t

U. S. ENGINEER OFFICE, Washington Barracks, D. C., August 1, 1903.—Sealed proposals for reinforced concrete construction will be received at this office until noon August 14, 1903, and then publicly opened. Information on application. JOHN STEPHEN SEWELL, Capt. Engrs. 6-1t

IN PREPARATION

Rock Excavation—Methods and Cost

By H. P. GILLETTE

AUTHOR OF "EARTHWORK AND ITS COST"

ADVERTISERS' CLASSIFIED DIRECTORY.

CONTINUED ON PAGE 91.

Agencies.
Moore, J D, 43 Liberty st, New York
Air Brakes.
Westinghouse Air Brake Co, Pittsburg, Pa
Air Compressors.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Air Compressor Wks, 26 Cortlandt st, N Y
American Well Works, Aurora, Ill
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee
Clayton Air Compressor Works, 114 Liberty st, N Y
Contractors' Equip Co, 447 W 5th st, Kansas City, Mo
d'Auria Pumping Engine Co, Drexel bldg, Phila
Fairbanks, Morse & Co, Chicago
General Pneumatic Tool Co, Montour Falls, N Y
Gray-Blaisdell Co, Bradford, Pa
Guild & Garrison, So 10th st, Brooklyn, N Y
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati O
McGowan, John H, Co, Cincinnati, O
McKiernan Drill Co, 170 Broadway N Y
Minneapolis Steel Mach'y Co, Minneapolis, Minn
Norwalk Iron Works, So. Norwalk, Conn
Rand Drill Co, 128 Broadway, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Valle Co, Dayton, O
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa
Air Drill.
Columbus Pneumatic Tool Co, Columbus, Ohio
Contractors' Equip Co, 447 W 5th st, Kansas City, Mo
Air Hose Couplers
Clark Co. W J, Salem, Ohio
Aluminum
Pittsburg Reduction Co, Pittsburg, Pa
Annealing Boxes.
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg, Pa
Artesian Wells.
Bacon Air Lift Co, 100 Broadway, New York
Cole Bros, 102 Fulton st, New York
Conlan, P H & J, Newark, N J
Cook Well Co, St. Louis, Mo.
Gregory, Elisha, 123 Liberty st, New York
Phillips & Worthington, 11 Broadway, New York
Stothoff Bros, Flemington, N J
Williams Bros, Ithaca, N Y
Artesian Well Tools and Supplies.
Star Drilling Mach Co, 104 Fulton st, New York
Asphalt.
Commercial Asphalt Co, 11 Broadway, New York
Sicilian Asphalt Paving Co, Times bldg, New York
Warren Bros Co, 93 Federal st, Boston
Asphalt Machinery.
Cummer, F D. & Sons, Cleveland, O
Erie Machine Shops, Erie, Pa
Iroquois Iron Works, Buffalo, N Y
Batteries (Storage).
Coho & Co, H B, 114 Liberty st, New York
Bearings (Ball and Roller.)
Ball Bearing Co, 2322 Market st, Philadelphia
Bantam Mfg Co, Bantam, Conn
Standard Roller Bearing Co, Philadelphia
Bearings (Oilless)
North American Metaline Co, Long Island City, N Y
Balances. (Assay and Analytical.)
Ainsworth, Wm. & Sons, Denver, Colo
Belt Dressing.
Dixon, Jos., Crucible Co. Jersey City, N J
Main Belting Co, 1219 Carpenter st, Philadelphia
Belting (Canvas.)
Main Belting Co, 1219 Carpenter st, Philadelphia
Belting (Chain)
Aultman Co, Canton, O
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Philadelphia
Belt Lacing. (Steel.)
Bristol Co, Waterbury, Conn
Blast Furnaces.
Girard Boiler & Mfg Co, Girard, O
Means & Fulton Iron Works, Birmingham, Ala
Petroleum Iron Works Co, Pittsburg, Pa
Riter-Conley Mfg. Co, 55 Water st, Pittsburg, Pa
Blocks and Sheaves.
American Hoist & Derrick Co, St Paul, Minn
Boston & Lockport Blk. Co, 160 Commercial st, Boston
Hunt, C W Co, Richm'd Terrace, W N Brighton, S I
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
Yale & Towne Mfg Co, 9-13 Murray st, New York
Blowers.
American Blower Co, Detroit, Mich
Connersville Blower Co, Connersville, Ind
Mass. Fan Co, Waltham Mass
Roots, P H & F M Co, Connersville, Ind
Sturtevant, B F Co, Boston, Mass
Blue Printing Apparatus.
Elliott Electric Blue Print Co, Pittsburg.
Emerson Mfg. Co, F W, Rochester, N Y
Keuffel & Esser Co, 127 Fulton st, New York
Pittsburg Blue Print Co, 1505-C Park bldg, Pittsburg
Soltmann, E G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
Blue Print Paper.
Elliott Electric Blue Print Co, Pittsburg
Keuffel & Esser, 127 Fulton st, New York
Soltman, E.G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
(see also Instruments, Engineering, etc.)
Boiler Supplies.
Glasgow Iron Co, Pottstown, Pa
Parson Mfg Co, 320 Broadway, N Y
Boilers.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bacon, Earle C, 26 Cortlandt st, New York
Columbiana Boiler Co, Columbiana, Ohio
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Fairbanks, Morse & Co Chicago
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Works, East Boston, Mass
Iroquois Iron Works, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego, N Y
Leffel, Jas. & Co, Springfield, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
McNeil, Jas. & Bro, 29th & Railroad sts, Pittsburg
Means & Fulton Iron Works, Birmingham, Ala
Mundy, J S, Newark, N J
Petroleum Iron Wks Co, Washington, Pa
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Sharon Boiler Works, Sharon, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Variety Iron Works Co, Cleveland, Ohio
Warren City Tank & Boiler Works, Warren, O
Boilers (Water Tube.)
Babcock & Wilcox Co, 29 Cortlandt st, New York
Harrison Safety Boiler Wks, 3166 A 17th st, Phila
Keeler, E, Co, Williamsport, Pa
Bolt Clippers.
Helwig Mfg Co, St. Paul, Minn
Bolts. (Expansion.)
Church, Isaac. Toledo, O
Steward & Somaine Mfg Co, 130 N 6th st, Phila
Boots and Shoes.
Putman, H J, & Co, 38 Bridge sq, Minneapolis
Brakes.
Brill, J G Co, Philadelphia, Pa
(see also Air Brakes.)
Brass Rolling Machinery.
Poole, Robert, & Son Co, Baltimore, Md
Brick.
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Egyptian Silica Brick Process Co, Fredericksburg, Va
Jackson, John H, Albany, N Y
Johnsonburg Vit Brick Co, Johnsonburg, Pa
Mack Mfg Co, New Cumberland, West Virginia
McAvoy Vit Brick Co, 1345 Arch st, Philadelphia
Purington Paving Brick Co, Galesburg, Ill
Robinson Clay Product Co, Akron, O
Tomkins, Calvin, 120 Liberty st New York
Western Brick Co, Danville, Ill
Brick. (Fire.)
Maurer, Henry, & Son, 422 E 23d st, New York
New York Pottery Co, 12th ave & 56th st, N Y
Robinson Clay Product Co, Akron, O
Syracuse Stoneware Co, Syracuse, N Y
Brick Bond
Union Brick Bond Co, Pittsburg, Pa
Brick Machinery.
Bonnot Co, Canton, Ohio
Drake, C T, 300 W Jackson Boulevard Chicago
Miracle Pressed Stone Co, Sioux Falls, S. Dak
Brick (Sand-lime).
Huenne es, H & Co, 114 Liberty st New York
Bridge (Concrete).
Aberthaw Construction Co, Boston, Mas
Bridge Operating Machinery.
Edwards, Jos. & Co, 414 Water st, New York
Vulcan Iron Works, Chicago
Bridge Railings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
King Bridge Co, Cleveland, O
Massillon Bridge Co, Massillon, Ohio
Stupp Bros. Bridge & Iron Co, St. Louis, Mo
Bridges and Buildings.
American Bridge Co, New York
Baltimore Bridge Co, Bush st & B&O R R, Baltimore
Bellefontaine Bridge & Iron Co, Bellefontaine, Ohio
Berlin Construction Co, Berlin, Conn
Boston Bridge Works, 47 Winter st, Boston, Mass
Champion Bridge Co, Wilmington, Ohio
Chicago Bridge & Iron Co, Chicago
Clinton Bridge & Iron Works, Clinton, Iowa
Columbia Bridge Co, Pittsburg
Concrete-Steel Engineering Co, Park Row bldg N
Easton Foundry & Machine Co, Easton, Pa
Eichleay, Jr., & Co., John, Pittsburg, Pa
Fort Pitt Bridge Works, Pittsburg, Pa
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Joliet Bridge & Iron Co, Joliet, Ill
Kenwood Bridge Co, First Nat. Bank bldg, Chicago
King Bridge Co, Cleveland, Ohio
Massillon Bridge Co, Massillon, Ohio
McClintic-Marshall Construction Co, Pottstown, Pa
Minneapolis Steel Machinery Co, Minneapolis, Minn
Mo. Valley Bridge & Iron Works, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, Ohio
New Castle Bridge Co Indianapolis
New England Structural Co, Boston, Mass
Parker, T A, 212-216 North First st, Terre Haute Ind
Passaic Rolling Mill Co, Paterson, N J
Penn Bridge Co Beaver Falls, Pa
Pennsylvania Steel Co, Steelton, Pa
Phoenix Bridge Co. Phoenixville, Pa
Puget Sound Bridge & Dredging Co, Seattle, Wash
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Rogers Iron Co, Springfield, O
San Francisco Bridge Co, 220 Market st, San Franc
Scaife, W B, & Sons Co. Pittsburg, Pa
Seattle Bridge Co, Seattle, Wash
Shoemaker, Lewis F, & Co, Harrison bldg, Pa
Standard Bridge Co, Omaha
Strobel, C L, Monadnock block, Chicago, Ill
Stupp Bros. Bridge & Iron Co, St. Louis, Mo
Vale & Young, Baltimore, Md
Variety Iron Works Co, Cleveland, Ohio
Virginia Bridge & Iron Co, Roanoke, Va
Wabash Bridge & Iron Works. Wabash, Ind
Youngstown Bridge Co, 320 Broadway, New York
Bridges (Rolling Lift.)
Scherzer Rolling Lift Bridge Co, Chicago
Buckets (Automatic.)
Brown Hoisting Machinery Co, Cleveland
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Stuebner, G L, Long Island City, N Y
Union Iron Works, Hoboken, N J
Buckets (Elevator)
Clark Co, W J, Salem, Ohio
Building Blocks (Concrete)
Miracle Pressed Stone Co, Sioux Falls, S. Dak
Palmer Hollow Concrete bldg Block Co, Wash, D C.
Bumping Posts.
McCord & Co, 1445 Old Colony bldg, Chicago
Mechanical Mfg Co, Chicago
Bunkers (Suspension.)
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Burners (Oil.)
Hammel, C A 120 Fifth st, Los Angeles. Cal
Petroleum Iron Works Co, Pittsburg, Pa
Cableways (Suspension.)
Bacon, Earle C, 26 Cortlandt st, New York
Beatty M, & Sons, Welland, Ont
Broderick & Bascom Rope Co, St. Louis
Carson Trench Machine Co, 19 Dorrance st, Boston
Flory, S, Mfg Co, Bangor, Pa
Lambert Hoisting Engine Co, Newark, N J
Leschen, A, & Sons Rope Co, St. Louis
Lidgerwood Mfg Co, 96 Liberty st, New York
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
N. J. Foundry & Machine Co, 9 Murray st, N Y
Trenton Iron Co, Trenton, N J
United Telpherage Co. 20-22 Broad st, New York
Calking Yarn and Tools.
Ogden, J. Edward. Co, 149 Cedar st, New York
Car Couplers.
McConway & Torley Co Pittsburg, Pa
Railroad Supply Co. Bedford bldg, Chicago
Car Heating and Lighting.
Brill Co, J G, Philadelphia, Pa
Safety Car Heating & Lighting Co, 160 B'way, N Y
Car Trucks.
Brill, Co, J G Philadelphia, Pa
Car Wheels.
Brill Co, J G, Philadelphia, Pa
Cayuta Wheel & Foundry Co, Sayre, Pa
Ramapo Iron Works, Hillburn, N Y
Cars (Dump, Plantation, Flat, Hand, Logging Mining and Freight.)
Apex Equipment Co, 11 Broadway, New York
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G. Co, Philadelphia, Pa
Commercial Ry Equipment Co, 120 Liberty st, N Y
Continental Equipment Co, 5-17 Battery Place, N Y
Fairbanks, Morse & Co, Chicago
Ingoldsby Auto. Car Co, Chemical bldg, St. Louis
Koppel, Arthur, 68 Broad st, New York
National Drill & Mfg Co, 156 La Salle st, Chicago
Pressed Steel Car Co, Pittsburg, Pa
Ramapo Iron Works, Hillburn, N Y
Standard Steel Car Co, Frick bldg, Pittsburg
Steubner, G L, 176 Third st, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York
Cars (Narrow Gage.)
Brill, J G Co, Philadelphia, Pa
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Koppel, Arthur, 68 Broad st, New York
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York
Cars (Passenger & Freight.)
Brill, J G, Co, Philadelphia, Pa
Koppel. Arthur, 68 Broad st. New York
Cars (Wrecking & Ditching.)
Bucyrus Co, S. Milwaukee, Wis
Case Mfg Co, Columbus, O
Osgood Dredge Co, 37 State st, Albany. N Y
Castings (Brass.)
Campbell, J B, Brass Works, Cascade st, Erie Pa
Castings (Iron.)
Builders Iron Foundry, Providence, R I
Brooks, T H, & Co, Cleveland, O
Coldwell-Wilcox Co, Newburg, N Y
Columbia Machine Works, 217 Chestnut st, Brooklyn
Dimmick Pipe Co, Birmingham, Ala
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Du Bois Iron Works, Du Bois, Pa
Easton Foundry & Machine Co, Easton, Pa
Fox, John & Co, 253 Broadway, N Y
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co. Genesee st, Utica, N Y
Poole, Robert, & Son Co, Baltimore, Md
Reading Foundry Co, Ltd, Reading, Pa
Sessions Foundry Co, Bristol, Conn
Variety Iron Works Co, Cleveland, O
Warren Foundry & Machine Co, 160 Broadway, N Y
(see also Sewer and Street Castings)
Cement (Portland.)
Alpha Portland Cement Co, Easton, Pa
Alsen's Am Portland Cement Wks, 45 Broadway, N Y
American Cement Co, 22 S 15th st, Philadelphia, Pa
Atlas Portland Cement Co, 30 Broad st, New York
Buckeye Portland Cement Co, Bellefontaine, Ohio
Coplay Cement Mfg Co, 1123 Broadway, N Y
Empire Portland Cement Co, Warners, N Y
Fredenburg & Lounsbury, Metropolitan bldg, N Y
French, Samuel H, & Co, Philadelphia
General Supply & Construct'n Co, 8-10 Bridge st, N
Glens Falls Portland Cement Co, Glens Falls, N Y
Hartranft, Wm G, Cement Co, Philadelphia
Heidelberg Cement Co, Albany, N Y
Illinois Steel Co, Rookery, Chicago
Kelley Island Lime & Transport Co. Cleveland, Ohio
Lawrence Cement Co, 1 Broadway. New York
Lehigh Portland Cement Co, Allentown. Pa
Sinclair & Babson. 45 Broadway, New York
Snyder, Hiram, & Co, 229 Broadway, New York
St Louis Portland Cement Co, St Louis
Thorn Cement Co, 112 Church st, Buffalo, N Y
Vulcanite Portland Cement Co, 160 Fifth ave, N Y
Warner, Chas. Co, Wilmington, Del
Cement (Rosendale.)
Consolidated Rosendale Cem. Co, 26 Cortlandt st, N Y
Coplay Cement Mfg Co, 1123 Broadway, N Y
Cumberland (Md.) Cement & Mfg Co, P O Box 264
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co, Milwaukee, Wis
Snyder, Hiram, & Co, 229 Broadway, New York
Tomkins, Calvin, 120 Liberty st, New York
Union Akron Cement Co, 141 Erie st, Buffalo, N Y
Western Cement Co, Louisville. Ky
Cement Kilns and Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bartlett, C O, & Snow Co, Cleveland, Ohio
Bonnot Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark, J C, Box 525, Atlanta, Ga
Dodge Mfg Co, Mishawaka, Indiana
Kent Mill Co, 170 Broadway, New York
Jeffrey Mfg Co, Columbus, Ohio
Smidth, F L, & Co, 66 Maiden Lane, New York
Sturtevant Mill Co. 108 Clayton st, Boston
Vulcan Iron Works, Wilkesbarre, Pa
Cement Mixer.
Alexander Iron Works, Syracuse, N Y
Chain Blocks.
Yale & Towne Mfg Co, 9-13 Murray st, New York
Chains.
Newhall Chain Forge & Iron Co, 9 Murray st, N Y
Channelers.
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago. Ill
Chemists.
McKenna, Chas. F, 221 Pearl st, N Y
(see also Laboratories.)
Chimneys. (Brick.)
Custodis, A. Chimney Const'n Co, Bennett bldg, N Y
Coal and Ore Handling Machinery.
Aultman Co, Canton, Ohio
Bacon, Earle C, 26 Cortlandt st, New York
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Brown Hoisting Machinery Co, Cleveland, O
Exeter Machine Works, Pittston, Pa
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, Ohio
King Bridge Co, Cleveland, Ohio
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, N Y
Link Belt Engineering Co, Nicetown, Phila
Main belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, New York
N. J. Foundry & Machine Co, 9 Murray st, New York
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Robins Conveying Belt Co. 14-21 Park Row. N Y
Simpson. H S, Electric bldg, Cleveland
Steubner. G L. 175 Third st, Long Island City, N Y
Colleges (Engineering.) (see page IV.)
Concentrators.
Allis-Chalmers Co. Home Ins bldg, Chicago
Concrete Mixers.
Campbell & Marsh, Cawker bldg, Milwaukee, Wis.
Clyde Iron Works, Duluth, Minn
Cockburn Barrow & Mach. Co, Jersey City, N J
Contractors' Equip Co 447 W. 5th st, Kansas City, M
Contractor's Plant Co, 37 Pittsburg st, Boston
Contractors' Supply & Equip. Co, 222 5th av, Chicago
Drake, C T, 300 W Jackson Boulevard. Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Iroquois Iron Works, Buffalo
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
McKelvey Concrete Mach'y Co, Security bldg, Chicago
Municipal Eng & Contr'g Co, Manhattan bldg, Chicago
Ransome Concrete Mach'y Co, 11 Broadway, N Y
Concrete Building Apparatus.
Farrell, Thos C, Washington, New Jersey
Concrete Steel Construction
Aberthaw Con. Co, 12 Beacon st, Boston, Mass
Concrete Steel Eng. Co, Park Row Bldg, N Y
Ronsome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
St. Louis Exp. Metal Co, St. Louis, Mo.
Truss Meta Lathi Co, 15-25 Whitehall st, N Y
Turner Construction Co, 11 Broadway, N Y
Condensers.
Alberger Condenser Co, 95 Liberty st, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Davidson M T, 58 Keap st, Brooklyn, N Y
Dean Bros, Steam Pump Works. Indianapolis, Ind
Epping-Carpenter Co, Pittsburg
Guild & Garrison, So 10th st, Brooklyn, N Y
Stilwell-Bierce & Smith-Valle Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y
Conduits (Pipe.)
Blackmer & Post Pipe Co, St. Louis, Mo
Eppinger & Russell Co, 66 Broad st, New York
Field, C J, 29 Broadway, New York
Standard Vitrified Conduit Co, 30 Cortlandt st. N Y
Standard Sewer Pipe Co, Rochester, N Y
Wyckoff Pipe & Creosoting Co., Stamford, Conn
Contractors.
Abbot-Gamble Contracting Co, St. Louis and N Y
American Pipe Mfg Co, 112 N Broad st, Philadelphia
Bates & Rogers Const'n Co, 1206 Manhattan bldg, Chic
Cook Well Co, St. Louis, Mo
Eastern Construction Co, 46 Classon ave, Brooklyn, NY
Eichleay, John, Jr., Co, Pittsburg
Esson, W A, & Co 1137 Stock Exchange bldg, Chicago
Foundation & Contracting Co, 37 Nassau st, New York
Gahagan, W H, 189 Montague st, Brooklyn, N Y
Gest, G M, Cincinnati and New York
Gilbreth, Frank B, 176 Federal st, Boston
Gillespie, T A, Co, Westinghouse bldg, Pittsburg, Pa
Loomis-Pettibone Gas Machy Co, 52-54 William st, NY
McCabe, Jas. F, 504 Equitable bldg, Baltimore, Md
McMullen, Arthur & Co, 13-21 Park Row bldg, N Y
Murphy, J M & Co, Windsor Arcade, N Y
O'Rourke, John F, Park Row bldg, New York
Phillips & Worthington. 11 Broadway, New York
Puget Sound Bridge & Dredging Co, Seattle, Wash
Quigley, R M, & Co, Laclede bldg, St. Louis, Mo
Regan & Mulock, D P, 1429 Chestnut st, Philadelphia
Smith & Robinson, 8-10 Bridge st, New York
Snare & Triest, 39 Cortlandt st, New York
United Eng & Con Co, 13-21 Park Row, New York
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)
Contractors' Tools and Supplies.
Bond, H L, & Co, Pearl & Purchase sts, Boston, Mass
Contractors' Equip Co, 417 W 5th st, Kansas City, M
Crane & Co, Inc, A M, The Rookery, Chicago
Davies, Frank, 64-66 Broad ft, New York
Gilbreth, Frank B, 176 Federal st, Boston
Kennedy & Co, L. E., 17 Broadway, New York
Maxfield, H E, & Co, 136 Liberty st, New York
Shannon, J Jacob, & Co, 1744 Market st. Philadelphia
Standard Supply & Equipment Co, Philadelphia
Wickes Bros New York and Saginaw, Mich
Conveyors. (See Hoisting and Conveying Machinery; also see Trench Machines.)
Cooling Towers.
Alberger Condenser Co, 95 Liberty st, New York
Davidson, M T, 58 Keap st, Brooklyn, N Y
Worthington, Henry R, Brooklyn, N Y
Cranes.
Am. Hoist & Derrick Co, St. Paul, Minn
Brown Hoisting Machinery Co, Cleveland, O
Bucyrus Co, S Milwaukee, Wis
Case Mfg Co, Columbus, Ohio
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Industrial Works, Bay City, Mich
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Manning, Maxwell & Moore, 85 Liberty st, New York
Marion Steam Shovel Co, Marion Ohio
Niles Tool Works Co, 136-138 Liberty st, New York
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Wood, R D, & Co, Philadelphia, Pa
Cranes (Portable).
North Penn Iron Co, 3d & Sedgley ave, Philadelphia
Creosoting.
American Creosote Works, New Orleans
Atlantic Creo & Wood Pres Works, Norfolk, Va
Carbolineum Wood Preserving Co, 13 Park Row, N Y
Eppinger & Russell Co, 66 Broad st, New York
International Creosoting & Con. Co, Galveston, Tex
New Orleans Wood Pres Works, New Orleans, La
Norfolk Creosoting Co, Norfolk, Va
Southern Cresoting Co, Slidell, La
U S Wood Preserving Co, 29 Broadway, New York
West Pascagoula Creosote Wks, W Pascagoula, Miss
Wyckoff Pipe & Creosoting Co, Stamford, Conn
Crucibles.
Dixon, Jos., Crucible Co, Jersey City, N J
Damper Regulators.
d'Este, Julian Co, 15 Canal st, Boston
Derrick and Derrick Fittings.
American Hoist & Derrick Co, St. Paul Minn
Byers, John F, Machine Co, Ravenna, Ohio
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co, 138 Dey st, N Y
Hayward Co, 97 Cedar st, New York
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
Lambert Hoisting Engine Co, Newark, N J
Diamond Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago
Differential Hoists.
Boston & Lockport Block Co, Boston, Mass
Ditching and Excavating Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S. Milwaukee, Wis
Carson Trench Machine Co. 16 Dorrance st, Boston
Hayward Co, 97 Cedar st, New York
Marion Steam Shovel Co, Marion, Ohio
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, 12 Post Office Square, Boston
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago
Vulcan Iron Works Co, Toledo
Western Wheeled Scraper Co, Aurora, Ill
Diver.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Diving Apparatus.
Morse, Andrew J, & Son, 140 Congress st, Boston
Schrader's, A, Son, 32 Rose st, New York
Docks (Composite and Steel Floating).
Crandall, H I, & Son Co, East Boston, Mass
Doors and Door Fittings.
Kinnear Mfg Co, Columbus, Ohio
N. J. Foundry & Machine Co, 9 Murray st, N Y
Wilson, J Geoffrey, 3 W 29th St, N Y
Drafting Tables.
Emerson Mfg. Co, F W, Rochester, N Y
Hein Furniture Co, Toledo, O
Draftsmen's Supplies. (see Instruments.
Drain Tile (see Pipe, Vitrified Clay.)
Dredging and Dredging Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S Milwaukee, Wis
Edwards, Jos., & Co, 414 Water st, New York
Ellicott Machine Co, Baltimore, Md
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicago
Hayward Co, 97 Cedar st, New York
Lawrence Machine Co, Lawrence, Mass
Marion Steam Shovel Co, Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J S, Newark, N J
Osgood Dredge Co, Albany, N Y
Puget Sound Bridge & Dredging Co, Seattle, Wash
Seattle Bridge Co, Seattle, Wash
Smith & Robinson, 8-10 Bridge st, New York
Smith, Theo., & Bro, Jersey City, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works Co Toledo
Drilling and Boring Machines (Portable).
Contractors' Equip Co, 447 W 5th st, Kansas City, Mo
Knight Mfg Co, Canton, Ohio
Philadelphia Pneumatic Tool Co, Philadelphia
Stow Flexible Shaft Co, 26th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y
(see also Pneumatic Tools.)
Drills (Rock).
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 128 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Broadway, New York
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J
Drill Sharpeners
Hendrie & Bolthoff Mfg & Sup. Co, Denver, Colo.
Drop Forgings.
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila
Drop Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y
Dry Docks (Marine Railway).
Crandall, H I, & Son Co, East Boston, Mass
Dryers (Cement).
American Process Co, 62 William st, New York
Bartlett, C O, & Snow Co, Cleveland, O
Crown Dryer Co, 129 Euclid ave, Cleveland
Cummer, F D, & Son Co, Cleveland, O
Ruggles Coles Engineering Co, 41 Cortlandt st, N Y
Simpson, H S, Mfg'g Agt, Electric bldg, Cleveland
Dynamite (see Explosives).
Dynamos.
C & C Electric Co, Central R R bldg, New York
Coho & Co, H B, 114 Liberty st, New York
General Electric Co. Schenectady, N Y
Stow Mfg Co, Binghamton, N Y
Westinghouse Electric & Mfg Co, Pittsburg, Pa
Economizers (Fuel).
Green Fuel Economizer Co, Matteawan, N Y
Broomell, Schmidt & Steacy Co, York, Pa
Electric Storage Batteries.
Electric Storage Battery Co, Philadelphia
Elevators.
Marine Engine & Machine Co, 1123 Broadway, N Y
Morse Elevator Works, Philadelphia
Otis Elevator Co, 71 Broadway, N Y
Employment Bureaus.
Brotherhood Steam Shovel & Dredge Engrs., Chicago
Cleveland Engineering Agency, Box 71, Sta. B, Cleve
Engineering Agency, Monadnock blk, Chicago, Ill
Engineering Employment Bureau, Syracuse N Y
Hapgood Bureau, 257 Broadway, N Y
New York Engineering Agency, 35 Warren st, N Y
Yuzzolino, N, 73 Mulberry st, New York
Engines. (Gas and Gasoline).
American Well Works, Aurora, Ill
Backus Water Motor Co, Newark, N J
Chase Machine Co, Cleveland
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Fairbanks, Morse & Co, Chicago, Ill
Loomis-Pettibone Gas Machy Co, 52-54 William st, NY
Maxfield, H E, & Co, 136 Liberty st, New York
Mietz & Weiss, 128 Mott st, New York
New Era Iron Work Co, 37 Dale ave, Dayton, O
Otto Gas Engine Works, Philadelphia, Pa
Snow, T W, (Otto Engine) 350 Dearborn st, Chicago
Springfield Gas Engine Co, Springfield, O
Temple Pump Co, 15th Place, Chicago
U. S. Wind Eng. & Pump Co, 20 Water st, Batavia, I
(see also Engines, Oil.)
Engines (Hoisting).
American Hoist & Derrick Co, St. Paul, Minn
Bacon, Earle C, 26 Cortlandt st, New York
Beatty, M, & Sons, Welland, Ont
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F., Machine Co, Ravenna, Ohio
Chase Machine Co, Cleveland
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Dake Engine Co, Grand Haven, Mich
Fairbanks, Morse & Co. Chicago, Ill
Flory, S, Mfg Co Bangor, Pa

ADVERTISERS' CLASSIFIED DIRECTORY.

Hunt, C W., Co, Richmond Terrace, W N Brighton, N Y
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, New York
Monighan's Machine Works, 513 Carroll ave, Chicag
Mundy, J S, Newark, N J
Potter Mfg Co, 240 N W ave, Indianapolis, Ind
Rawson & Morrison Mfg Co, Cambridgeport, Mas
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa
(see also Electric Hoists.)

Engines (Marine).
Kingsford Foundry & Machine Works, Oswego N Y
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil)
Aultman Co, Canton, Ohio
Mietz & Weiss, 128 Mott st, New York

Engines (Portable).
Buffalo Pitts Steam Boiler Works, Buffalo, N Y
Port Huron Engine Co, Port Huron, Mich

Engines (Steam).
Allis-Chalmers Co. Home Ins bldg, Chicago
Erie Pump & Engine Co, Erie, Pa
Fairbanks, Morse & Co, Chicago
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicag
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Lawrence Machine Co, Lawrence, Mass
Leffel, Jas, & Co, Springfield, O
Maxfield, H E, & Co, 126 Liberty st, New York
Minneapolis Steel Mach'y Co, Minneapolis, Minn
Morris Machine Works, Baldwinsville, N Y
Southwark Foundry & Machine Works, Philadelphia
Sturtevant, B F, Co, Boston, Mass
Struthers, Wells & Co, Warren, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre Pa

Engines (Traction).
Aultman Co, Canton, O
Heisler, Chas. L, Erie, Pa
Kelly, O S Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich

Excavators and Excavating Machinery
(see Ditching and Excavating Machinery and Steam Shovels.)

Exhaust Heads
Burt Mfg. Co, Akron, O

Expanded Metal.
Assoc Exp Metal Cos, Room 1209, 256 Broadway, N Y
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 15-25 Whitehall st, N Y
Youngstown Iron & Steel Roofing Co, Youngstown, O

Explosives.
Explosives Mfg Co, Elmira, N Y
Electric Exploder Co, 120 Liberty st, N Y
Kirk, Arthur & Son, Co, 910 Duquesne Way, Pittsburg

Faucets.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Feed Water Heaters.
Allis-Chalmers Co, Home Ins bldg, Chicago
Erie Machine Shops, Erie, Pa
Gem City Boiler Co, Dayton, O
Green Fuel Economizer Co, Matteawan, N Y
Harrison Safety Boiler Wks, 31st & N 14th st, Phila
Patterson Frank L & Co, 28 Church st New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O

Feed Water Purifiers.
Industrial Water Co, 126 Liberty st, New York
Pittsburg Filter Mfg Co, Pittsburg, Pa
Smith, W B, Perth Amboy, N J

Fencing. (Wire).
American Steel & Wire Co, New York & Chicago
International Fence & Fireproofing Co, Columbus, O
Lamb Wire Fence Co Adrian, Mich

Fillet. (Leather).
Butler, A G, 284 Pearl st, New York

Filing Cases.
Art Metal Construction Co, Jamestown, N Y
General Fireproofing Co, Youngstown, O

Filter Presses.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Filters.
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Deutsch, W M, 141 Broadway, N Y
Jackson Filter Mfg Co, St Louis
Loomis-Manning Filter Co, Philadelphia, Pa
N Y Continental-Jewell Co, 15 Broad st, N Y
Norwood Engineering Co, Florence, Mass
Pittsburg Filter Mfg Co, Pittsburg, Pa
Ross Valve Co, Troy, N Y
Scaife, Wm. B, & Sons Co, Pittsburg

Filters (Oil).
Burt Mfg Co, Akron, O

Fire Department Supplies.
Morse, Andrew J, & Son, 140 Congress st, Boston, Mass

Fire Proofing.
Aberthaw Construction Co, Boston, Mass
Berger Mfg Co, Canton, O
Bromley, A H, Jr, 112 N Broad st, Philadelphia
Hennebique Patents 1123 Broadway, N Y
International Fence & Fireproofing Co, Columbus, O
Metropolitan Fire Proofing Co, Trenton, N J
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
Roebling Construction Co, 121 Liberty st New York
St Louis Expanded Metal Fireproofing Co, St Louis
Truss Metal Lath Co, 15-25 Whitehall st, New York
Turner Construction Co, 11 Broadway, New York
Wight, W N, & Co, 160 Fifth ave, New York
(see also Expanded Metal, also Concrete Steel Construction.)

Fire Proofing (Hollow Tile).
Maurer, Henry & Sons, 422 E 23d st, New York

Fire Proofing (Wood).
Electric Fireproofing Co, 19th st, and East River, N Y

Fittings (Flanged).
McLeod Co, 95 Liberty st, New York

Flexible Pipe Joint.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Flexible Shafts.
Stow Flexible Shaft Co, 16th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y

Flue Lining (Fire Clay).
Jackson, John H, Albany, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th sts, N Y
Robinson Clay Product Co, Akron, O

Flush Tanks.
Pacific Flush Tank Co, 48 La Salle st, Chicago Ill

Fly Wheels.
Poole, Robert, & Son Co, Baltimore, Md

Forges (Portable).
Roots, P H & P H, Co, Connersville, Ind
Tate, Jones & Co, Pittsburg Pa

Forgings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Baker, Jas H, Mfg Co, 503 Park bldg, Pittsburg, Pa
Brill, J G, Co, Philadelphia, Pa
Cleveland City Forge & Iron Co, Cleveland
Keystone Drop Forge Wks, 3001-63 Clearfield st, Phila
Pennsylvania Steel Co, Steelton, Pa

Friction Clutches.
Brown Hoisting Machinery Co, Cleveland
Douge Mfg Co, Mishawaka, Indiana
Link Belt Engineering Co, Nicetown, Philadelphia
Smith, S Morgan, Co. York, Pa

Frogs, Switches and Crossings.
Elliot Frog & Switch Co, East St. Louis, Ill
Koppel, Arthur, 66-68 Broad st, N Y
N Y Switch & Crossing Co, Hoboken, N J
Pennsylvania Steel Co, Steelton, Pa
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Fuel Economizers (see Economizers).

Furnaces
American Gas Furnace Co, 23 John st, New York
Parson Mfg Co, 320 Broadway, N Y
Petroleum Iron Works, Washington, Pa
Tate, Jones & Co, Empire bldg, Pittsburg

Furniture (Steel).
General Fireproofing Co, Youngstown, O
Hein Furniture Co, Toledo, O

Gages (Steam).
Crosby Steam Gage & Valve Co, Boston

Galvanizing Kettles.
Columbiana Boiler Co, Columbiana, Ohio
Enterprise Boiler Co, Youngstown, Ohio

Galvanized Iron and Steel.
Am Sheet Steel Co Battery Park bldg, New York

Garbage Dump Carts (see Wagons and Carts).

Garbage Furnace.
Morse-Boulger Destructor Co, 39 Cortlandt st, N Y
Smith-Siemens Garbage Furnace, 141 Broadway, N Y

Gas Exhausters.
Connersville Blower Co, Connersville, Ind

Gas Fittings.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Gas Holders.
Petroleum Iron Works Co, Pittsburg, Pa
Wood, R D, & Co, 400 Chestnut st, Philadelphia
(see also Stand-Pipes and Tanks.)

Gas Machinery.
American Gas Furnace Co, 23 John st, New York
Gas Machinery Co, Cleveland, O
Loomis-Pettibone Gas Machy Co, 52-54 William st, NY
National Drill & Mfg Co, Chicago, Ill
Norwalk Iron Works, South Norwalk, Conn
Parson Mfg Co, 320 Broadway, N Y
Roots, P H, & F M, Co, Connersville, Ind
Wood, R D, & Co, Philadelphia, Pa

Gas Works.
Gas Machinery Co, Cleveland, Ohio

Gaskets.
McCord & Co, 1445 Old Colony bldg, Chicago
U. S. Mineral Wool Co, 143 Liberty st, New York

Gates (Railway).
International Fence & Fireproofing Co, Columbus, O
Pneumatic Signal Co, 1122 Broad-Exchange bldg, N Y

Gearing.
Caldwell H W, & Son Co, Chicago
Dake Engine Co, Grand Haven, Mich
Morse Elevator Works, Philadelphia
Poole, Robert, & Son Co, Baltimore, Md
Smith S. Morgan, Co, York, Pa

Gear-Wheels.
Taylor Iron & Steel Co, High Bridge, N J

Gloves (Hand Made).
Luther, J P, Glove Co, 326 Pearl St, Berlin, Wis

Governors (Water-Wheel).
Lombard Governor Co, 36 Whittier st, Boston
Replogle Governor Works, Chestnut st, Akron, O

Graders.
Austin Mfg Co Manhattan bldg, Chicago
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
Stuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Grain Elevators (see Tanks, grain storage.)

Granite (see Stone, also Paving Blocks)

Graphite.
Detroit Graphite Mfg Co, Detroit, Mich
Dixon Jos., Crucible Co, Jersey City, N J
Goheen Mfg Co, Canton, Ohio
Internat'l Acheson Graphite Co, Niagara Falls, N Y

Grate Bars.
Dobbie Foundry & Mach Co, 138 Dey st, N Y

Greenhouses.
Plenty, Josephus, Jersey City, N J

Hanger (Joist).
Clark Co, W J, Salem, Ohio
Duplex Hanger Co, Cleveland, Ohio

Headlights (Locomotive).
Brill, J G, Co, Philadelphia
Dressel Ry Lamp Works, 3876 Park ave, New York
Railroad Supply Co, Bedford bldg, Chicago

Heating and Ventilating (Steam & Hot Water
American Blower Co, Detroit
Am. District Steam Heating Co, Lockport, N Y
Keeler, E, Co, Williamsport, Pa
Mass. Fan Co., Waltham, Mass

Hoisting Engines (see Engines, Hoisting).

Hoisting and Conveying Machinery.
American Hoist & Derrick Co, St Paul, Minn
Aultman Co, Canton, O
Beatty, M, & Sons, Welland, Ont
Bartlett, C O, & Snow Co, Cleveland, O
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F, Machine Co, Ravenna, O
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Cresson Co Geo. V, Philadelphia
Carson Trench Machine Co, Boston, Mass
Contractors' Equip Co, 447 W 5th st, Kansas City, Mo
Dodge Mfg Co, Mishawaka, Indiana
Exeter Machine Works, Pittston, Pa
Garland, M. Co, Bay City, Mich
Hunt, C W, Co, Richmond Terrace, W N Brighton NY
Jeffrey Mfg Co, Columbus, Ohio
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Lambert Hoisting Engine Co, Newark, N J
Link Belt Engineering Co, Nicetown, Philadelphia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, N Y
Pawling & Harnishfeger, 167 Clinton st, Milwaukee
Robins Conveying Belt Co, 14-21 Park Row, N Y
Trenton Iron Co, Trenton, N J
Union Iron Works, Hoboken, N J
United Telpherage Co, 20-22 Broad st, N Y

Hoists (Electric).
American Hoist & Derrick Co, St Paul, Minn
Hunt, C W, Co, Richmond Terrace, WN Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg. Co, 96 Liberty st, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Rawson & Morrison Mfg Co, Cambridgeport, Mass
United Telpherage Co, 20-22 Broad st, New York

Hoists (Pneumatic).
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee
Dake Engine Co, Grand Haven, Mich
General Pneumatic Tool Co, Montour Falls, N Y

Hooks (Hoist, Grab, etc.)
Baker, Jas. H, Mfg Co, 503 Park bldg, Pittsburg
Roebling's, John A. Sons Co, Trenton, N J

Hose (Metal).
Moore Chas. C, & Co, 32 First st, San Francisco

Hose (Rubber).
McKiernan Drill Co, 170 Liberty st, N Y

Hose (Suction).
Edson Mfg Co, 225 Atlantic ave, Boston

Hydrants and Valves.
Bourbon Copper & Brass Works, Cincinnati, O
Cayuta Wheel & Foundry Co. Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Clow, J B & Sons, Lake & Franklin sts. Chicago
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Drummond, M J, & Co, 192 Broadway, N Y
Fox, John & Co, 253 Broadway, N Y
Kennedy Valve Mfg Co, 50 Beekman st, N Y
Loetzer Valve & Mfg Co, Towanda, Pa
Ludlow Valve Mfg Co, Troy, N Y
McLean, John, 298 Monroe st, New York
Millar, Chas. & Son, Co, Utica, N Y
Norwood Engineering Co, Florence, Mass
Reading Foundry Co, Ltd, Reading, Pa
Ross Valve Co, Troy, N Y
Smith, A P, Mfg Co, Newark, N J
Thompson, J, & Co, Philadelphia, Pa
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Jacks.
Watson-Stillman Co 210 E. 43d st, New York

Hydraulic Leather Packing.
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Detroit Leather Specialty Co, 900 Michigan av, Detroit

Hydraulic Machinery.
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Deming Co, Salem, Ohio
Pelton Water Wheel Co 134 Main st, San Francisco
Power Specialty Co, 126 Liberty st, New York
Watson-Stillman Co, 210 E 43d st, New York
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Presses.
Power Specialty Co, 125 Liberty st, New York
Watson-Stillman Co, 204 E 43d st, New York
Wood, R D & Co, 400 Chestnut st, Philadelphia

Hydraulic Rams.
Pelton Water Wheel Co. 134 Main st, San Francisco
Power Specialty Co, 126 Liberty st, New York

Ice and Refrigerating Machinery.
Featherstone Fdy & Mach Co. 348 N Halsted, Chicago

Indicators (Steam Engine).
Ashcroft Mfg Co, 85 Liberty st, New York
Crosby Steam Gage & Valve Co, Boston, Mass

Injectors.
Hayden & Derby Mfg Co. 85 Liberty st, New York
Lunkenheimer Co. Cincinnati, Ohio
Parson Mfg Co, 320 Broadway, N Y

Instruments (Engineering, Drafting).
Ainsworth, Wm. & Sons. Denver Colorado
Aloe, A S, Co, 414 N Broadway, St. Louis, Mo
Alteneder, Theo, & Sons, 945 Ridge ave, Phila, Pa
Archts' & Engrs' Supply Co, 1011 Walnut st, Kan. City
Beckman, L, 57 Adams st Toledo, Ohio
Berger, C L, & Sons, 37 Williams st, Boston, Mass
Brandis, F E, Sons & Co, 814 Gates ave, Brooklyn, NY
Brown & Sharpe Mfg Co, Providence, R I
Buff & Buff Co, J P Station, Boston, Mass
Dietzgen, Eugene, Co, 181 Monroe st, Chicago
Engineers' Instrument Exchange, Scranton, Pa
Gurley, W & L E, Troy, N Y
Hardtmuth, L & C, 49 Barclay st, New York
Heller & Brightly Spring Garden st & Ridge av, Phila
Hettersheid Mfg Wks, Grand Rapids, Mich
Keuffel & Esser Co, 127 Fulton st New York
Knight, F C, & Co, 400 Locust ave, Philadelphia Pa
Koelsch & Co, 138 Fulton st, New York
Ledder, G G, 302 School st, Boston
Lietz, A, Co, 422 Sacramento st, San Francisco, Ca
Mahn & Co, 305-312 Olive st, St. Louis
Mosey, W & D, Bayonne, N J
Pfister, Herm, 428 Plum st, Cincinnati, O
Prince, L M, 108 West 4th st, Cincinnati, O
Queen & Co, Inc, Philadelphia, Pa
Saegmuller, G N, Washington, D C
Sals, J C, 429 Montgomery st, San Francisco
Schwencke, Kirk & Co, 38 Church st, New York
Soltmann, E G, 123 E 23d st, New York
Stackpole & Bro, 39 Fulton st, New York
Stanley, W F, & Co, Great Turnstile, Holborn, London
Ulmer, J C, & Co, 224 Champlain st, Cleveland, Ohio
Universal Drafting Mach Co, Blackstone bldg, Cleve
Weber, F, & Co, Philadelphia
Williams, Brown & Earle, 918 Chestnut st, Phila
Wittstock, P & R, Berlin, S. 59, Germany
Young & Sons, 43 N. 7th st, Philadelphia

Insulating Materials.
Standard Paint Co, 103 William st, New York

Iron Work (Ornamental).
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia Pa
Brooks, T H, & Co, Cleveland, O
Rogers Iron Co, Springfield, O
Schrieber, L, & Sons Co, Cincinnati, O
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Walton Iron Co. Cincinnati, O

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jacks
Duff Mfg Co, Allegheny, Pa
Norton, A O, 286 Congress st, Boston
Watson-Stillman Co, 210 E 43d st, N Y

Labor (Italian).
Italo-American Trust Co, 725 Carpenter st, Phila
Julian Bros, 110 Mott st, New York
Vuzzolino, N, 73 Mulberry st, New York
(See Employm ent Bureaus).

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
Hunt, R W, & Co, Rookery, Chicago
McKenna, Chas F, 221 Pearl st, New York
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co, Philadelphia, Pa

Lamps (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Lathing (Metallic).
Berger Mfg Co, Canton, O
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 15-25 Whitehall st, N Y
(see also Fireproofing.)

Lead (Pig).
Millar, Chas & Son Co, Utica, N Y
Ogden, J Edward Co, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J Edward Co, 147 Cedar st, New York
Union Iron Works, Hoboken, N J

Light (Contractors').
Kitson Hydro-Carbon Htg & Lighting Co, Phila
Macleod & Co, Walter, Cincinnati Ohio
Wells Light Co, 44 Washington st, New York

Locomotive Tires.
Latrobe Steel Co, 1200 Girard bldg, Philadelphia, Pa

Locomotives.
American Locomotive Co, 25 Broad st, New York
Baldwin Locomotive Works, Philadelphia, Pa
Heisler, Charles L, Erie, Pa.
Porter, H K Co Pittsburg, Pa.

Locomotives (Contractors').
Avery, C F, 114 Liberty st, New York
Byers, John F, Machine Co, Ravenna, Ohio
Fitz-Hugh & Co, Chicago and New York
Porter, H K, Co, Pittsburg, Pa
Vulcan Iron Works, Wilkesbarre, Pa

Locomotives (Electric and Mining).
Baldwin Locomotive Works, Philadelphia, Pa
Brill, J G, Co, Philadelphia
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Koppel, Arthur, 66 Broad st. New York
Patton & Co, J. R., House bldg, Pittsburg, Pa
Porter, H K, Co, Pittsburg, Pa
Westinghouse Electric & Mfg Co, Pittsburg

Locomotive Headlights.
(see Headlights, Locomotives.)

Locomotives (Second hand).
(See Railway Equipment. Dealers.)

Lubricants.
Dixon, Jos, Crucible Co, Jersey City, N J

Lubricators.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Lumber (Creosoted).
American Creosote Works, Ltd, New Orleans, La
Atlantic Creo & Wood Pres Wks, 10 Bridge St, N Y
Carbolineum Wood Pres Co, 13 Park Row, N Y
International Creosoting & Con Co, Galveston, Tex
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Stamford, Conn
(see also Creosoting)

Lumber (Dock).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machinery (Second hand).
Braden, Jas A, 514 Park Row bldg, New York
Briggs, Marvin, 12 Broadway, New York
Carlin Machy & Supply Co, 186 Lacock st, Allegheny
Carlin, W J, 34th st & A V R R, Pittsburg, Pa
Chicago House Wreck Co, W. 35th & Iron sts, Chicago
Contractors' Supply Co. 1531 Monadnock blk Chicago
Contractors' Plant Depot, 27 William st New York
Contractors' Supply Co. Park bldg, Pittsburg, Pa
Driscoll, J. T., McCormick bldg Chicago
Fitz-Hugh Co, Monadnock block, Chicago
Grant & Harper Machy Co. Park Row bldg, New York
Kaiser, A V, & Co. 222 So 3d st, Phila, Pa
Low, Edgar S. Co, Empire bldg, Pittsburg
Saxton, J C, 18 Broadway, New York
Troy Public Works Co, 1 Mann bldg, Utica, N Y
Whitney, O R, 39 Cortlandt st, New York
Wormer Machy Co, 106 Woodbridge st, Detroit, Mich

Machine Tools.
Manning, Maxwell & Moore, 85 Liberty st, New York
Niles Tool Works Co, 136-138 Liberty st, New York

Mail Chutes.
Cutler Mfg Co, Rochester, N Y

Manholes and Covers.
(See Sewer and Street Castings; also Castings, Iron.)

Measure (Rotary).
Steckenreiter Mfg Co, 98 Lake st, Chicago, Ill

Measuring Tapes. (Steel).
Chicago Steel Tape Co, 808 Temple Court, Chicago
Johnston, Robt, Wilkesbarre, Pa
Keuffel & Esser, 127 Fulton st, New York
Lufkin Rule Co, Saginaw, Mich
Starrett, L S, Co, 88 Crescent st, Athol, Mass

Merchandise Checks.
Am. Ry Supply Co, 24 Park Place, New York

Mechanical Draft.
American Blower Co, Detroit
Sturtevant, B F, Co, Boston, Mass
(see also Blowers.)

Metal Hose (See Hose, Metal).

Meters (Current).
Berger, C L & Sons, 9 Province st, Boston, Mass

Meters (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Meters (Gas).
Pittsburg Meter Co East Pittsburg, Pa

Meters (Water).
Buffalo Meter Co, 363 Washington st, Buffalo
Builders Iron Foundry, Providence, R I
Cole, E S, 135 Park Row bldg, New York
Hersey Mfg Co, Boston, Mass
Neptune Meter Co, 253 Broadway, New York
Pittsburg Meter Co, East Pittsburg, Pa
Thomson Meter Co, 79 Washington st, Brooklyn, N Y
Union Water Meter Co, Worcester, Mass
Worthington, Henry R, Brooklyn, N Y

Mining Machinery and Equipment.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Diamond Rock Drill Co, 95 Liberty st N Y
Blanton E A, Jr, The Bourse, Philadelphia
Bradley Pulverizer Co, 92 State st, Boston, Mass
Bucyrus Co, S. Milwaukee, Wis
Fairbanks, Morse & Co, Chicago
General Electric Co, Schenectady, N Y
Jeffrey Mfg. Co, Columbus, O
Lidgerwood Mfg Co, 96 Liberty st, N Y
Marion Steam Shovel Co, Marion, Ohio
Philips Mine and Mill Supply Co, Pittsburg, Pa
Rand Drill Co, 128 Broadway, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Vulcan Iron Works, Wilkesbarre, Pa

Mortar Mixers.
Drake, C T, 300 W Jackson Boulevard, Chicago

Motors (Electric). (see Dynamos.)
Loomis Pettibone Gas Machy Co, 52-54 William st, NY

Non-Conducting Covering.
U S Mineral Wool Co, 143 Liberty st, New York

Nut Locks.
National Elastic Nut Co, Milwaukee, Wis

Oil Burners.
Hammel, C A, 120 Fifth st, Los Angeles, Cal

Oil Cups.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Oil Mill Machinery.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Oilless Bearings.
No Am Metaline Co, 6 West av, Long Island City, N Y

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Packing.
Detroit Leather Specialty Co, 900 Michigan av, Detro

Painting Machines (Pneumatic).
Hook, F E, Hudson, Mich
Macleod & Co, Walter, Cincinnati, O

Paint Pigment.
Internat'l Acheson Graphite Co, Niagara Falls N Y

Paints.
Carbolineum Wood Pres Co, 13 Park Row, N Y
Chilton Paint Co, 69 Cortlandt st, N Y
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos, Crucible Co, Jersey City, N Y
Goheen Mfg Co, Canton, Ohio
Heath & Milligan Mfg Co, Chicago
Hook, F E, Hudson, Mich
Rinald Bros, 1142 N Hancock st, Philadelphia
Sicilian Asphalt Paving Co, Times bldg, New York
Standard Paint Co, 103 William st, New York
Toch Bros, New York
Zibell Damp-Resisting Paint Co, 290 Front. t, N Y

Paint (Cold Water).
Bird & Co. J A & W, 10 Well st, Boston

Patent Attorneys.
Hill, Thos A, 261 Broadway, New York
Straley, Hasbrouck & Schloeder, 257 Broadway, N Y

Pattern Letters.
Butler, A G, 284 Pearl st, New York

Paving (Bituminous-Macadam).
Warren Bros Co, 93 Federal st, Boston

Paving Blocks (Stone).
Leopold, J, & Co, 18 Broadway, New York
(See also Stone.)

Paving Brick (see Brick).

Perforated Metals.
Harrington & King Perforating Co, Chicago, Ill

Pile Driving Machinery.
American Hoist & Derrick Co, St. Paul, Minn
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee Wis
Contractors' Plant Mfg Co, Buffalo, N Y
Lidgerwood Mfg Co, 96 Liberty st, N Y
Mundy, J S, Newark, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago, Ill

Pile Hammers.
Vulcan Iron Works, Chicago, Ill

Piling.
American Creosote Works, Ltd, New Orleans, La
Atlantic Creosot. & Wood Pres. Co, 10 Bridge st, N Y
Eppinger & Russell Co, 66 Broad st, New York
Meredith J P, Memphis, Tenn
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co, Norfolk, Va
Southern Creosoting Co, Slidell, La
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Piling (Steel).
Interlocking Channel Bar Co, Tribune bldg, Chicago

Pipe (Cast Iron).
Builders Iron Foundry, Providence, R I
Byers, John F, Machine Co, Ravenna, Ohio
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Dimmick Pipe Co, Birmingham, Ala
Dimmick, J K, & Co, 1049 21 Drexel bldg, Phila
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Fox, John, & Co, 253 Broadway, New York
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Utica, N Y
Reading Foundry Co, Ltd, Reading, Pa
Snow, T W, 360 Dearborn st, Chicago, Ill
U S Cast Iron Pipe & Fdry Co, 217 La Salle st, Chicago
U S Wind Engine & Pump Co, Batavia, Ill
Warren Foundry & Machine Co, 160 Broadway, N Y
Wood, R D, & Co, Philadelphia, Pa

Pipe (Culvert). See Pipe, Vitrified Clay.

Pipe (Lead).
Millar, Chas. & Son Co, Utica, N Y

Pipe (Riveted Steel).
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Columbiana Boiler Co, Columbiana, Ohio
Gillespie, T A, Co, Pittsburg, Pa
Keeler, E, Co, Williamsport, Pa
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg Pa
Means & Fulton Iron Works, Birmingham, Ala
Pelton Water Wheel Co, 134 Main st, San Francisco
Petroleum Iron Works Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Warren City Tank & Boiler Works, Warren, O
Weigele Riveted Steel Pipe Works, Denver, Colo

Pipe (Spiral Riveted).
Abendroth & Root Mfg Co, Newburgh, N Y
Am Spiral Pipe Works, 64-66 Wabash ave, Chicago

Pipe (Vitrified Clay).
American Sewer Pipe Co, Pittsburg, Pa
Blackmer & Post Pipe Co, St Louis, Mo
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Evens & Howard Fire Brick Co, St Louis, Mo
Illinois Mfg Co, Macomb, Ill
Jackson, John H, Albany, N Y
Millar, Chas. & Son Co, Utica, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th st, N Y
Robinson Clay Product Co, Akron, O
Standard Sewer Pipe Co, Rochester, N Y

ADVERTISERS' CLASSIFIED DIRECTORY.

Pipe (Wooden).
American District Steam Co, Lockport, N Y
Excelsior Wooden Stave Pipe Co, San Francisco
National Wood Pipe Co, Los Angeles, Cal
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Pipe (Wrought Iron).
Crane Co, Chicago, Ill
Fox, John & Co, 253 Broadway, New York
National Tube Co, Pittsburg
Pittsburg Pipe & Iron Co, Allegheny, Pa
California Redwood Pipe Co, Los Angeles

Pipe Casing.
U S Mineral Wool Co, 143 Liberty st, New York

Pipe Cutting and Threading Machines.
Saunder's, D, Sons, Yonkers, N Y

Pipe Fittings and Flanges.
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Latrobe Steel Co, Girard bldg, Philadelphia
National Tube Co, Pittsburg
Thompson, J, & Co, Van Horn & Sophia sts, Phila P
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Joint (High Pressure).
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Jointers.
Watkins, Thos, Johnstown, Pa

Pipe Laying (Submarine).
Falcon, Jos G, 1110 Ayers Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Pipe Line Supplies.
Ogden, J Edward Co, 147 Cedar st, New York

Pipe Tapping Machines (See Tapping Machines)

Plaster.
Rock Plaster Co, 11 Broadway, N Y

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J G, Brass Works, Cascade st, Erie, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Millar, Chas, & Son Co, Utica, N Y

Pneumatic Tools.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Co umbus Pneumatic Tool Co, Columbus, Ohio
General Pneumatic Tool Co., Moutour Falls, N Y
Helwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Pelton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Case Mfg Co, Columbus, O
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Esté, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Case Mfg Co, Columbus, O
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins bldg, Chicago
Bradley Pulverizer Co, 29 State st, Boston, Mass
Clark J C, Box 525, Atlanta, Ga
Cresson, Geo V, Co, Philadelphia
Kent Mill Co, 170 Broadway, New York
Newell Mfg Co, 149 Broadway, New York
Smidth, F L & Co, 66 Maiden lane, New York

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping-Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendallville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heisler Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 81 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 120 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 100 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Union Steam Pump Co, Battle Creek, Mich

Pumps (Artesian Well).
Davidson, M T, 141 Broadway, New York
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal
U S Wind Engine & Pump Co, Batavia, Ill

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa
Kingsford Foundry & Machine Works, Oswego, N Y
Lawrence Machine Co, Lawrence, Mass
Maxfield, H E, & Co, 136 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 15th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 180 Commercial st, Boston
Edson Mfg Co, 255 Atlantic ave, Boston

Pumps (Electric).
Davidson, M T, 141 Broadway, New York
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm E, 141 Broadway, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Davidson, M T, 141 Broadway, New York
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Scranton Steam Pump Co, Scranton, Pa
Snow Steam Pump Works, 120 Liberty st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Punching Tools.
Pels & Co, Henry, 66-68 Broad st, New York

Pumps (Rotary).
Connersville Blower Co, Connersville, Ind

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
American Hoist & Derrick Co, St Paul, Minn
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 136 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Rack Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 200 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 15th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McConway & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co Cotton Exch bldg, N Y

Rails (Relaying).
Continental Equipment Co, 5-17 Battery Place, N Y
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Machy Co, Park Row bldg, New York
Hyde Bros, 902 Lewis bldg, Pittsburg
Johnson, Chas F, 908 Ellicott square, Buffalo
Robinson & Orr, 419 Wood st, Pittsburg
Tallon C J, 308 Market st, San Francisco

Rails (Steel).
Baumgarten & Bro, A F, Pittsburg, Pa
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Davenport Machine Works, Davenport, Ill
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Males Co, Ætna bldg, Cincinnati
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Watson, Benjamin, 66 Beaver st, New York
Wood & Co, 545 Marquette bldg, Chicago, Ill

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 126 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John F, 370 Grand ave, New York
General Pneumatic Tool Co, Moutour Falls, N Y
Manning, Maxw ll & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin Mfg Co, F C, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Huber Mfg Co, Marion, Ohio
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Oastler, W C, 156 Fifth ave, New York
Port Huron Engine Co, Port Huron, Mich
Scholl, Julian, & Co, 126 Liberty st, New York
Stuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co Home Ins bldg, Chicago
Austin Mfg Co, F C, Harvey, Ill
Aultman Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson Co, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 126 Liberty st, New York
Smidth, F L & Co, 66 Maiden lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled S raper Co, Aurora, Ill

Rock Drills (see Drills, Rock)

Rolling Doors, Partitions, etc. (Steel)
Columbus Steel Rolling Shutter Co, Columbus, O
Kinnear Mfg Co, Columbus, Ohio
Wils n, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 103 William st, New York

Roofing (Corrugated).
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Scaife, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 1[illegible] Park Row, New York

Schools (Correspondence).
Am. School at Armour Inst of Tech, Chicago
(For Directory of Engineering Schools see p. 4.)

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Stuart Scraper Co, Oberlin, O
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3165 N 17th st, Phila

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago
Hygienic Suburban Sewage Co, 1123 B'way, N Y

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Case Mfg Co, Colmbus, O
Cresson, Geo V, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scaife, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Columbus Steel Rolling Shutter Co, Columbus, O
Kinnear Mfg Co, Columbus, Ohio

Skylights.
National Skylight & Const'n Co, Jersey City, N J
Plenty, Josephus, Jersey City, N J
Vaile & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governors.
Poole Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Caldwell, W E, Co, 200 East Main st, Louisville, Ky
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Strutners-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Esté, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3168 N 17th st, Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Maxfield H E, & Co, 136 Liberty st, New York
Parson Mfg Co, 320 Broadway N Y
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Esté, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel (Crucible)
Crucible Steel Co, Pittsburg, Pa

Steel Clips.
Streeter, H A 31 & 33 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
American Hydraulic Stone Co, Denver, Colo
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co, 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 120 Liberty st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 255 Atlantic ave, Boston
Good Roads Machinery Co Kennett Square, Pa
Oastler Steam Road Roller, 156 Fifth ave New York

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
Means & Fulton Iron Works, Birmingham, Ala
Minneapolis Steel Mach'y Co, Minneapolis, Minn
National Skylight & Const'n Co, Jersey City, N J
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E K, Co, 120 Liberty st, New York
Puget Sound Bridge & Dredging Co, Seattle, Wash
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Streeter, H A, 31 & 33 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 894 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Superheaters (Steam).
Power Specialty Co, 126 Liberty st, New York

Tacks, Thumb
Albrecht, C R, 62 Fulton st, New York

Tanks.
Berquist, A S, 515 Bedford ave, Brooklyn N Y
Efros, Chas, Co, Bayonne, N J
Hodge Boiler Works, East Boston, Mass
Pacific Tank Co, Los Angeles, Cal.
Petroleum Iron Works Co, Pittsburg, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
U S Wind Engine & Pump Co, Batavia, Ill
Warren City Tank & Boiler Works, Warren, O
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Modern Tool Co, Erie, Pa
Smith, Anthony F, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Falkenau-Sinclair Machine Co, 109 N 22 st, Phila
Riehle Bros Test & Mach Co, 1424 N 8th st, Phila

Thermometers (Recording).
Bristol Co Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Time and Cost Keeping.
Industrial Time & Cost Keep. System, Bantam, Con

Time Detectors.
Imhauser, E, & Co, 206 Broadway, New York

Tracing Cloth.
Aloe, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 54 Park Place N Y
Hardtmuth, L & C, 49 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Traps (Sewer).
Sewer Trap Mfg Co, 61 Beekman st, New York

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Lithe Engineering & Construction Co, Toledo, O
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 32 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore, Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Steel Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1321 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Roots, P H & F M, Co, Cornersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Millar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Sweet & Doyle, Cohoes, N Y
Thompson, J, & Co, Philadelphia

Varnish and Colors.
(see Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, Inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co, Columbia, Pa
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Jamestown, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Motors.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 126 Liberty st, New York
N Y Continental Jewell Filtration Co, 15 Broad st, NY
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governors.
(see Governors, Water-Wheel.)

Water Wheels.
Cassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York
Williams Bros, Ithaca, N Y

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 13-21 Park Row, N Y
McMullen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Row bldg, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 230 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Dake Engine Co, Grand Haven, Mich
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 15th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Brodrick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Worm Gearing.
Morse, Williams & Co, Philadelphia, Pa

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Keystone Drop Forge Wks, 20th & Clearfield sts, Phila

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